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PROPAGANDA

The Federal Trade Commission has been listening for some months to testimony regarding propaganda carried on in public schools by the public-service corporations. It is charged that privately owned corporations which supply communities with light and power have adopted unfair methods of prejudicing pupils against public ownership. It is charged that economists and other specialists have been employed to prepare statements favorable to private ownership. College professors have been paid to lecture at teachers' meetings and before school assemblies. Textbooks have been "forced into the schools," and, in general, the "power corporations" have left no stone unturned to create a public sentiment favorable to themselves.

To such statements as the foregoing the representatives of the public-service corporations answer that they found the schools unsupplied with instructional material relating to economics and that they expended money in having prepared for consumption in the schools authoritative information of the highest possible order. This material represents, they say, the deliberate judgment of the best thinkers who can be employed.

The secretary of the National Education Association and the representative assembly of that association have expressed resentment at what they regard as commercial interference with the public schools. A committee of the association has been created to prepare a report for the annual meeting in 1929 on the following points: "(1) What principles of school administration should guide school authorities, and what principles of school procedure should guide teachers in handling material which might be classed as propaganda? (2) What machinery, if any, needs to be set up on a local, state, or national basis to serve as a protection to individual school officers and teachers?"

There is a touch of humor in this situation. If any organization has ever used the methods of propaganda to promote the interests of its members, it is the National Education Association. A paid bureau—the Research Division—has issued statistical compilation after statistical compilation in order to coerce boards of education to increase teachers' salaries. Members of Congressional committees have repeatedly complained at public hearings that they are bombarded by letters favoring a federal department of education on the ground that such a department will be able to increase salaries for teachers.

The secretary of the National Education Association, who views with alarm this particular propaganda, has, so far as the present writer knows, never raised any objection to the propaganda for safety which is carried forward annually on a large scale by the casualties companies. Nor does he object to the use in schools of pamphlets on health when these pamphlets are issued by a life-insurance company, which profits largely by the slightest extension of the span of human life.

Who is free from the charge of propaganda? It is said that the "power propaganda" has been carried on secretly. If that is true, the promoters of this propaganda made a mistake. It is contended that school officers should decide on all matters of instruction. They and they alone should exercise the initiative in introducing ideas into the curriculum. This would be a more acceptable program if school authorities had in the past exhibited more initiative in preparing expert and timely materials of instruction.

☞ The fact is that propaganda cannot be suppressed, and it is not reprehensible because it is introduced into the school curriculum. The schools are in need of fresh vigorous material. They need lessons on public utilities. They ought to be supplied with more material on economic questions.

There is a charge which unfortunately the Federal Trade Commission cannot entertain. It is that school officers are delinquent because they make inadequate provision for the teaching of economics. There is no possibility of a hearing before the Federal Trade Commission on the propriety of literary outbursts by secretaries of teachers' associations. There is no control over the daily and hourly introduction of antiquated sentimentalisms into the instruction offered in the schools to pupils who ought to hear something about public utilities. If the schools had been awake, they would not have been disturbed by the rude shock administered to their ignorance by the "power propaganda."

CO-OPERATION BETWEEN BUSINESS AND SCHOOLS

The following exchange of communications between James A. Bacigalupi, president of the Bank of Italy, and J. M. Gwinn, superintendent of the public schools of San Francisco, is suggestive in the highest degree of a type of co-operation which should be fostered in all parts of the country.

The following letter was written by Mr. Bacigalupi on May 22, 1928.

In common with many other business men, I have long been conscious of the gap that exists between our public-school system and the modern workaday world. It is a question, I know, that has engaged the serious thought of America's foremost educators; and I have wondered if we, on our side, have not been somewhat lax in assuming a responsibility in what is, after all, "our problem" since many of the boys and girls whom you graduate next month will look to a future in business, and we must take up their education at the point where the public school has left off.

In other words, I am asking how we may co-ordinate the public school with what has been described as the "school of hard knocks" in the same way that our colleges and universities are co-ordinated with the schools today.

It is with this thought in mind that I am offering through you, and on behalf of the Bank of Italy, fifteen awards for meritorious work while in school to those boys who will graduate from the San Francisco high schools next month.

These awards will be fifteen positions with the Bank of Italy. The candidates should be selected by the school principals on a basis of scholarship and character, and upon the desire of the boy to adopt banking as a career. In all instances, the final decision as to the fitness of the candidate for the work involved will rest with the personnel department of the bank.

I know, of course, the impatience of American youth to get out into the world and conquer all in one swoop; and I sympathize with it. It makes for initiative and resourcefulness. But I can say to the ambitious youth that the Bank of Italy, with its constantly increasing activities and growth, offers an opportunity worthy of his ambition and limited only by his own ability and application to his work. While the remuneration at first may be smaller, and the immediate future less glamorous, than in some other line of activity, to the thoughtful graduate, able to look a long way ahead, the winning of this Bank of Italy award holds forth an inviting prospect.

In this connection, I should like to draw to the attention of the prospective candidates the Bank of Italy's compensation plan under which employees become stockholders in this institution. In the first six months of its operation in 1925, 1,801 shares of the bank, with a value of \$531,295, were owned by our employees. This had grown by December, 1927, to a total of 39,617 shares, with a value of \$10,300,420. This gives some idea of what advantages the bank offers its employees. I believe it is no exaggeration to say that a high-school graduate entering the bank service now could at the end of twenty-five years retire with a comfortable competence from his compensation under this plan.

In offering this co-operation, I do so in the hope that it is a step which will bring industry into a closer relationship with the schools. But it is only a step—I can look to the time when industry will become a part of that system; when actual experience in our great business and industrial institutions will be included in every school curriculum. When that time comes, we will have gone far in eliminating misfits in the business world. The boy will then have some idea of what business means, and where he wants to go. He will not be expected to embark on uncharted seas without experience and with nothing but his own courage and his ambition to guide him.

The following is Mr. Gwinn's reply.

Your generous offer on behalf of the Bank of Italy to provide fifteen boys who will graduate from the public high schools next month, and who have done superior work in their high-school course, and who are interested in banking as a career, with positions in the Bank of Italy is accepted with great appreciation. The San Francisco public schools will be interested to co-operate with the Bank of Italy and with other banks, businesses, and industries in a program for the proper placing and subsequent education and training of graduates of our high schools.

One of the most important problems in the education and training of youth in this country is that of the transition from school to vocation. Education must

be conceived of as very much broader than school education. It is indeed heartening to know that many businesses and industries have to a very large degree become educational institutions, taking up the education and training of youth where the school leaves off. The schools cannot anticipate all the needs of specific types of businesses and industries into which the graduates of the high schools go. There must always be much "learning on the job." The proper direction of this type of education is the joint responsibility of the school and the business or industry.

The Board of Education has now under consideration ways and means for a better co-ordination of the work of the schools with vocations. Your letter will be of service in pointing a way to the accomplishment of this purpose.

A 6-4-4 PLAN OF SCHOOL ORGANIZATION

The Board of Education of Pasadena, California, has definitely decided to organize the school system of that city in three units—an elementary school of six grades, a junior high school of four grades, and a combined senior high school and junior college of four grades. This form of organization of the school system is one which has been under consideration in California for some time. It is altogether probable that other cities in that state will follow the example of Pasadena.

The 6-4-4 organization has one cardinal defect, which has been characteristic of California's junior colleges from the first. It leaves the pupil at twenty years of age exactly where he was when the elementary school was an eight-grade unit. It is, of course, to be expected that the new plan will provide the pupil with more opportunities to take advanced courses. So far, however, as progress toward a college diploma or toward admission to professional school is concerned, the two units of four and four in the junior and senior high school and junior college throw away the saving in time which is clearly recognized as effected in the six-grade elementary unit.

What the new units of four and four ought to accomplish if they take full advantage of the achievements of the shortened elementary curriculum is to enable the pupil to complete the senior college at twenty years of age. It has been suggested that the first high-school unit of the Pasadena plan drop the adjective "junior" from its name and take the place of the earlier high school. In like fashion, the consolidated senior high school and junior college might adopt the

title "college" and thus frankly undertake to conserve the two years which seem to be lost by the arrangement as now conceived.

If Pasadena does not do more than redistribute fourteen years between the first grade and the end of the junior college, it will give a striking example of the inability of a generation to break away from petrified habits of administrative thinking. It would have been better for the future of higher education in this country if Pasadena had adopted the 6-3-3 plan and had attempted to put into six years of secondary education what is now undertaken in most cases where secondary education extends through the Sophomore year of college and is completed six years after the end of elementary education.

THE PUBLIC SCHOOLS AS AGENTS FOR THE NATURALIZATION OF ALIENS

The school system of the city of Los Angeles has a Department of Citizenship, conducted by C. C. Kelso. This department has come to be recognized by the courts as the official agency for certifying aliens as prepared to be naturalized. The department provides instruction as a means of preparing aliens to receive its certificate.

The success of the Department of Citizenship in Los Angeles has led to the consideration by Congress of a general educational law on naturalization. A bill "to establish a more adequate standard for admission of aliens to citizenship in the United States of America" was introduced during the last session of Congress and will be reintroduced in the next session. The full text of the bill is as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That an intelligent reading as well as speaking knowledge of the English language shall be required of aliens before filing petitions for naturalization, and that a reasonable understanding of American history, institutions, and ideals shall be required of petitioners for naturalization before being admitted to citizenship; such knowledge and understanding to be certified by diplomas issued by public-school authorities in accordance with standards and regulations prescribed by the Secretary of Labor with the cooperation of the Secretary of the Interior, or, in lieu thereof, by a written examination based upon said standards and regulations conducted by the naturalization examiner.

This measure deserves the hearty support of all school officers. It expresses in clear terms a fundamental principle which is of the

first importance. The only successful way to insure the proper induction of aliens into American life is through education.

CO-OPERATIVE STUDY OF AMERICAN AND ENGLISH
SECONDARY SCHOOLS

In an article published in the June, 1928, issue of *School Life*, Professor Arthur J. Jones, of the University of Pennsylvania, describes a project which will be of interest to many who are engaged in administering secondary schools. Professor Jones describes his plan as follows:

It is now proposed to begin a co-operative study of English and American secondary schools that should give needed information that can be relied upon as accurate. The purpose of the study is to promote a better understanding and a closer, more sympathetic relationship between English and American educators, to provide a medium by which the best methods and practices of one system of secondary education may be made known to the other. Certainly, the aims and methods of English schools will be very suggestive and helpful to us in the United States. It is hoped that a knowledge of the best methods and practices of our schools may be equally helpful to English men and women.

This study is planned to cover several years and involves the co-operation of groups of English and of American educators. It is inaugurated by Professor E. D. Grizzell and myself, who are connected with the School of Education of the University of Pennsylvania, Philadelphia. A joint committee of English and American school men and women will be in charge of the study.

The study will involve a general comparison of the main facts and tendencies in the recent development of secondary education in the two countries and a detailed study of certain selected schools in the two countries. It is hoped that twenty-five or more schools in each country may be sufficiently interested in the plan to co-operate. These schools will be selected, as far as possible, in such a way that results will be comparable. The topics studied will be selected by the joint committee but will probably include an intimate comparative study of students, teachers, buildings, grounds and equipment, methods, discipline, systems of examinations, and results.

All available statistical data will be secured and carefully compared. If possible, tests will be constructed to secure comparative data. Regular examination questions used in a school in one country may be sent to schools in the other country and results tabulated.

One of the most hopeful parts of the plan is that of promoting the exchange of teachers between the schools interested in the study. A plan has been partly formulated by which the interests of the schools are safeguarded and the teachers' pension status will not be endangered. It is hoped that money may be found to finance traveling and other incidental expenses of the exchange teach-

ers. Professor Grizzell will be in residence in England during the year 1928-29 and will personally assist in the study.

Finally, it is hoped that the results of the entire study will be published and made available for all interested in a comparative description and evaluation of the two systems of secondary education.

Any principal of a public high school, any head master or head mistress of a private school who is interested in the study, and especially any who would like to co-operate in the detailed plan for comparison of certain schools is requested to write to me at the University of Pennsylvania, Philadelphia, Pennsylvania.

AVIATION AS A HIGH-SCHOOL SUBJECT

The following statement was published by the *New York Sun*.

Instruction in aviation and aeronautics will become a definite part of the Brooklyn Technical High School curriculum if the desires of Albert L. Colston, principal, materialize. The school is decidedly air-minded, Mr. Colston said, and there are now three extra-curriculum clubs devoted to the study of aeronautics. Individual students of the school are studying aviation outside, several taking the course at Curtiss Field.

One of these boys, an eighteen-year-old Junior, Mr. Colston said, has his pilot's license and has invited his principal to fly with him. He would not reveal the name of the boy.

Mr. Colston is planning to have shops, laboratories, and other equipment for the study of aviation in the proposed new building of the Brooklyn school. He does not, however, contemplate a course in flying. The proposed course will be devoted to groundwork, and in this connection Mr. Colston pointed out that the average air field employs twelve men on the ground for every one in the air.

A technical high school course in aviation, Mr. Colston said, might appropriately cover the essentials of groundwork, including the elementary and basic work in theory of aviation, airplane construction, navigation, and strength and tests of materials. Such a course, in his opinion, could be correlated with the course in flying given at reputable flying schools.

A demand for such a course as Mr. Colston contemplates is indicated in other ways than in the general interest shown by the students. A number of former students have left school before graduation in order to lose no time in getting aviation training. These boys, said Mr. Colston, are employed at the New York flying fields and are thus getting through practical experience knowledge which an extra-curriculum club could not give them but which could have been obtained in a regular aviation course. Several members of the faculty are prepared to teach various phases of aviation. One teacher of English was an army flying instructor during the war; another is a former cadet flyer; and several others have had some experience in flying.

TESTING ACADEMIC ACHIEVEMENTS IN PENNSYLVANIA

The following item appeared in the *New York Times*.

A general test of educational achievement was given to June candidates for the Bachelor's degree in more than forty Pennsylvania colleges and universities and in all state teachers' colleges and to forty thousand Seniors in the Pennsylvania high schools by the Carnegie Foundation for the Advancement of Teaching in co-operation with a joint commission of the Association of College Presidents of Pennsylvania and the State Department of Public Instruction.

The purpose of the college test was to learn what the Bachelor's degree, representing an eight-year high-school and college education in Pennsylvania, amounts to in terms of clear, available, important ideas, the ability to discriminate exactly among ideas, and the ability to use them accurately. The measurement of these abilities among college Seniors corresponds with the tests given at the same time in Pennsylvania high schools.

The test, instead of dealing only with subjects that the student may have studied in college and high school, included the main fields of organized knowledge. It was arranged in groups, each of which covers associated subject matters. Technical branches of professional subjects, such as medicine, law, engineering, and education, were not represented except as found in the arts and sciences which are their basis. In each field the questions ranged from very easy ones to very difficult ones that only experts could answer.

Questions of three general types were used—matching questions, recognition questions, and true-false questions. In the matching questions two columns of words were placed opposite each other. The student was asked to mark which numbered phrases in one column best applied to the various phrases in the other column. In the recognition questions the student was asked to mark which one of a number of phrases best completed the thought in a given statement. In the true-false questions the student was asked to mark a plus opposite a statement he believed to be true and a zero opposite a statement he believed to be false.

The test required about twelve hours to complete and was divided into four equal periods. The subject of the first period was the physical world. This included the tools of scientific investigation—mathematics and scientific methods; the analytical sciences—physics and chemistry; the earth sciences—astronomy, geology, and geography; and the sciences of life—biology, botany, zoölogy, and physiology.

The subject of the second session was the social world. This included the tools of scientific investigation—psychology, anthropology, and sociology; statistical and historical methods; languages—Greek, Latin, French, German, Spanish, and Italian; ancient cultures—primitive cultures and Near Eastern, Greek and Hellenistic and Roman civilizations.

Western civilization, pre-industrial period, was the third subject. This in-

cluded social and economic institutions up to 1850; political history and institutions to 1870; intellectual development, including religious, scientific, and philosophical thought to 1859; literature, including English, French, German, and other European literatures; and the plastic arts and music.

The fourth subject was contemporary Western civilization and non-Western civilization. This included contemporary economic life; contemporary political life, social theories, social and personal relations, legal institutions, domestic institutions; science as an institution; religious and philosophical life and theories; the literary situation in Western civilization; the plastic arts and music; nationalistic ways of life and ideals, and the interrelations between these social institutions. The non-Western civilizations included the Chinese, Japanese, Indian, and Moslem.

PRACTICAL COMMENCEMENT EXERCISES

The Doylestown High School, Doylestown, Pennsylvania, devoted its commencement exercises in June of this year to a report on interruptions of school work by permits granted to pupils to leave the school building during school hours. Mildred Ulmer, one of the three honor pupils who presented the report, summarized the findings as follows:

By summing up the outstanding facts of this study, we hope to create some serious concentrated thought on the problem under discussion. By going through the records of five years of permits to leave the building, we have found that twenty-five hundred pupils, or five hundred a year, obtained permission to leave the building during school hours for the ninety-six different reasons given. The most astounding fact discovered was the number of times some excuses or reasons were given. The permit for dentist appointments headed the list by a large majority, with "excused for home" a very close second. Now, even considering visits to the dentist a most important health measure, how can we point with pride to the using of 535 hours for that alone? From such figures we should expect to find a school of students with perfect teeth. In the "excused for home," "errands," "doctors," "music lesson," it was found that the total number of hours used was one-third of all the time lost. Comparing these results shows us that the excuses that come direct from home are far in the lead of all others in proportion to the number of cases. For every three pupils who leave during school hours on home excuses, there is only one who loses time on account of athletics or dramatics. Only thirty-five of the three hundred school days wasted were used by the extra-curriculum activities. But the great weight of this part of the study lies in the fact that the large number of causes for time-wasting is right in the home and not in school.

After we had tabulated the ten most frequent reasons, we undertook to find the ten less frequent or trivial reasons for excuse. Taking such ridiculous excuses as going to the barber, the dressmaker, the "movies," and forgetful-

ness, we found that forty-seven hours, or six school days, were spent uselessly because of them.

HIGH-SCHOOL STADIUMS IN ARIZONA

The following statement was published by the *New York Times*.

Because "competitive athletic games, from every standpoint, may properly be included in a public-school curriculum," the Supreme Court of Arizona has held that statutory authority given a school district to issue bonds for new schoolhouses includes authority to issue them for the erection of an athletic stadium where the employment of physical-education teachers is also permitted by the statute.

The court in *Alexander v. Phillips* said:

"The branches of human knowledge taught in the public schools have been vastly expanded in the last few generations. Has this expansion been sufficient to bring within its scope a structure of the class in question? It is a well-known fact, of which this court properly takes judicial notice, that the large majority of the higher institutions of learning in the country are erecting stadiums differing from that proposed for the Phoenix Union High School in size only, and it is commonly accepted that they are not only a proper but almost a necessary part of the modern college. This is true both of our privately endowed and our publicly maintained universities.

"That athletic games under proper supervision tend to the proper development of the body is a self-evident fact. It is not always realized, however, that they have a most powerful and beneficial effect upon the development of character and morale. To use the one game of football as an illustration, the boy who makes a successful football-player must necessarily learn self-control under the most trying circumstances, courage, both physical and moral, in the face of strong opposition, sacrifice of individual ease for a community purpose, team work to the exclusion of individual glorification, and, above all, that 'die in the last ditch' spirit which leads a man to do for a cause everything that is reasonably possible and, when that is done, to achieve the impossible by sheer will-power.

"The same is true to a greater or lesser degree of practically every athletic sport which is exhibited in a stadium. It seems to us that to hold things of this kind less fitted for the ultimate purpose of our public schools—to wit, the making of good citizens, physically, mentally, and morally—than the study of algebra and Latin is an absurdity."

RADIO AS A MEANS OF TRAINING TEACHERS

The *Christian Science Monitor* published the following item from Mexico City.

Teachers in rural schools must keep pace with progress in education, the Department of Public Education has ruled, and to do this radio conferences have been invoked for the first time in Mexican history.

The teachers attend radiocast lectures in their own schools and receive over the air information from the department's private station CZE in this city. The government has purchased elaborate receiving apparatus for this purpose, and sets have been installed in rural schools of the states of Mexico, Puebla, Morelos, Hidalgo, and Tlaxcala.

HOME STUDY

John Coulbourn, assistant superintendent of schools, Baltimore, Maryland, published in a recent issue of the *Baltimore Bulletin of Education* an article in which he advocates home study for high-school pupils. He writes in part as follows:

Although authorities may disagree on the question of home study for pupils, the required curriculums and the length of the school day in our city make it necessary that a definite program of home study be followed in junior and senior high schools. The plaint that pupils will not study or do not know how to study may be justified, but the mere "piling on" of additional pages or extra reports will not solve the problem. Any successful program of home study must include the school, the faculty, the home, and the pupils. Undoubtedly, the pupil grows and develops only through his own activity, but the extent of this activity depends upon the attitude of the school toward home study, the co-operation of the home, the nature of the assignments, the knowledge of how to do the assignments, the uniform practice of teachers in directing study, and the genuine interest in the work.

It is contended by some that home study fosters bad habits because pupils do not know how to work by themselves and because there is interference with the pupils' work by parents and older brothers and sisters who mislead the learners while trying to give them help. It is further contended that pupils who become really interested in their work will continue to read and to experiment on their own initiative. The fact is that a great deal of time and energy is wasted where immature pupils are left to their own devices. If school could be in session through a reasonable working day, say a day of eight hours, perhaps it would be justifiable to omit from the pupils' outside programs any concentrated intellectual work. As it is, Superintendent Coulbourn's contention seems valid. High-school pupils should have a regular program of study outside of school hours.

PRESIDENT ELIOT'S NOTES ON SUCCESS

The *New York Times* published the following statement.

Some notes written by the late President Eliot, probably as an outline for an address to undergraduates, form part of the material used by Professor

Morison in his article on Harvard's history in the *Harvard Crimson's* booklet for incoming Freshmen.

Under the title of "What Possessions or Acquisitions in College Lead to Success in After-Life," President Eliot enumerated:

1. An available body. Not necessarily the muscles of an athlete. Good circulation, digestion. Power to sleep and alert, steady nerves.
2. Power of sustained mental labor.
3. The habit of independent thinking on books, prevailing customs, current events. University training the opposite of military or industrial.
4. The habit of quiet, unobtrusive, self-regulated conduct, not accepted from others.
5. Reticent, reserved, not many acquaintances but a few intimate friends. Belonging to no societies, perhaps. Carrying in his face the character so plainly to be seen there by the most casual observer that nobody ever makes to him a dishonorable proposal.

GENERAL LECTURES IN A HIGH SCHOOL

The following statement was issued by the Bureau of Education.

A fine-arts foundation in the Richard J. Reynolds High School, Winston-Salem, North Carolina, has been established by a local citizen, chairman of the board of city-school commissioners. The specific purpose of the foundation is to bring to the city each year recognized leaders in different realms of activity who, through inspirational addresses and the power of their personality, will be a constructive influence in the lives of pupils. Lecturers during the past year included representatives of two important educational institutions in the South, a distinguished American poet, a naturalist and writer on scientific subjects, an American sculptor, a prominent minister, and an internationally known medical missionary.

INCREASED COSTS OF PUBLIC EDUCATION

The cost of maintaining a pupil in public school is more than two and one-half times as great today as it was fifteen years ago, according to figures compiled by the Bureau of Education. In 1913 the average annual cost of schools per pupil actually attending school was \$38.31. In 1916 the figure had increased to \$49.12; in 1920, to \$64.16; in 1925, to \$98.45; while the latest figure available is \$102.05.

The expenditures for public schools have almost doubled since 1920. Annual expenditures for grounds, buildings, and contents increased rapidly from 1920 to 1925, when they reached \$433,000,000. The year following there was a decrease of \$22,000,000, which was taken as an indication that construction had overtaken the shortage caused by the war.

The Bureau of Education believes that the increase in school expenditures may be attributed to two main causes—the decreased purchasing power of the dollar and the improved school facilities being provided.

FREE SECONDARY EDUCATION IN ENGLAND

A part of the annual report of the Board of Education of England for the year 1926-27 is of special interest to American readers because of the account which it gives of the democratization of secondary education in England and Wales. Some extracts from this report are as follows:

Twenty years have now elapsed since the free-place requirement first found a place in the Regulations for Secondary Schools, and a brief account of the development of free-place provision during that period may not be out of place. The introduction of the free-place requirement did not, of course, mark the beginning of the provision of free education in secondary schools, but it is not within the scope of the present survey to examine the facilities that existed prior to 1907 for enabling scholars of public elementary schools to proceed to secondary schools. . . . It will suffice to say here that, before the Board's regulations placed a definite obligation on local education authorities and governing bodies to facilitate the passage from the elementary to the secondary schools by the provision of free places, many authorities, to a great extent encouraged by the Education Act of 1902, which brought secondary as well as elementary education within their purview, had developed their scholarship arrangements very rapidly. Thus, whereas in 1894 the number of scholarships for the whole of England provided by local authorities and tenable at secondary schools was less than 2,500, by 1900 the number of ex-elementary-school children holding scholarships in secondary schools awarded by local authorities was between 5,000 and 5,500, and by 1906 this figure had further increased to over 12,000, and, if scholarships restricted to intending teachers be included, to over 23,500.

The object of the free-place requirement was not, as is sometimes supposed, to open the door of higher education to elementary-school children of exceptional promise but rather to bring the advantages of such education, as far as the limited funds at the Board's disposal would permit, within the reach of the poorer classes and to place them on the same footing as pupils whose parents were in a position to pay the school fees. . . .

The introduction of the free-place requirement did not result in any startling increase in the number of ex-public elementary-school pupils enjoying free education in secondary schools. A few months before the 1907 regulations came into force such pupils, including all those who had at any time been in a public elementary school, represented 24.08 per cent of the total number of pupils.

In 1907-8 the proportion, reckoning only those who had been in public elementary schools for at least two years immediately prior to their admission, was 27 per cent, and in 1908-9 the percentage had risen to 30. Since then . . . there has been a steady rise in the proportion of free-place pupils. The position now reached is that, of the total number of pupils in secondary schools, 37.6 per cent are assured of free tuition for the whole of their secondary-school life. If there be added those pupils who pay no fees but who are not technically free-place pupils, because the terms of their scholarships or remission of fees do not assure the continuance of the award during the whole of school life, the percentage is approximately 40.9. . . .

Of the 35,015 boys who, after reaching the age of twelve, left school during the year ended July 31, 1927, 21,451 were fee-paying and 13,564 free pupils. The former had an average school life beyond the age of twelve of three years and five months, and an average leaving age of fifteen years and eleven months; the latter had an average school life of four years and one month and an average leaving age of sixteen years and four months. The figures for the girl leavers, of whom 17,736 were fee-paying and 12,023 free pupils, are even more favorable to the free pupils. In the case of the fee-payers the figures were three years and five months and fifteen years and eleven months; and in the case of the free pupils, four years and three months and sixteen years and six months, respectively. It will be seen that, taking boys and girls together, the free pupils stayed at school nine months longer and left at an age older by six months than the fee-paying pupils.

The successes in the first school examinations of free pupils as compared with fee-paying pupils are very striking. Taking the pupils who left secondary schools in England and Wales after the age of twelve in the school year 1926-27, we find that, whereas only 19.8 per cent of the fee-paying pupils had obtained the school certificate before leaving, 48.1 per cent of the free pupils had done so. The figures for boys and girls separately were as follows: boys—fee-payers, 21.1; free pupils, 51.0; girls—fee-payers, 18.3; free pupils, 44.8.

The remaining aspect of the profit derived by attendance at secondary schools which lends itself to statistical measurement is the extent to which secondary-school pupils pass on from such schools to universities. Figures on this subject relating to England and Wales will be found in Table 45 of the Statistics in this volume. From these it will be seen that, in spite of the fact that the number of free pupils whose financial circumstances are such as to enable them to proceed to a university without substantial extraneous assistance must, in the nature of things, be smaller than in the case of fee-paying pupils, yet the number of free pupils is not far short of double the number of fee-paying pupils who proceeded to universities.

THE BATTLE OF THE SPECIALISTS IN SECONDARY EDUCATION

BANCROFT BEATLEY
Harvard University

It is becoming increasingly evident that even the most competent secondary-school principal is incapable of dealing adequately with all the phases of education which are his concern. A series of brief quotations from the report of a recent school survey will make this clear.

The supervisory and administrative authority [of the director of vocational education] over the high schools as a whole needs to be strengthened by a clear understanding that he is in charge of public vocational education in the city. . . . The very nature of industrial education, ever changing as it must be to meet new demands and circumstances arising in industry, demands that there be direct and speedy contact between the director and the superintendent of schools. . . . We recommend that the director of vocational education be given the responsibility and the official title of "Associate Superintendent of Schools in Charge of Practical Arts and Vocational Education."¹

A director of commercial education should be appointed. He should be held responsible for the development of commercial education in the junior high schools, senior high schools, evening high schools, and continuation schools.²

A director of home economics, with rank and salary equal to that of the directors of other subjects, should be appointed to unify and develop the program of home economics education in the schools of the city.³

Everything relating to this [physical education] should be put directly under the supervision of the director of physical education.⁴

There should be some central supervising authority [in English] that will ascertain where the strong work is being done, discover the methods that give the best results, and have them generally used to equalize the educational opportunities of pupils throughout the city.⁵

¹ *Report of the Survey of the Public Schools of Philadelphia*, III, 278-79. Philadelphia: Public Education and Child Labor Association of Pennsylvania, 1922.

² *Ibid.*, IV, 67.

⁴ *Ibid.*, IV, 219.

³ *Ibid.*, III, 340.

⁵ *Ibid.*, IV, 112.

Competent general supervision and leadership in the social studies for the system as a whole would be justified by the number and size of the departments and the importance of the field.¹

In order to insure continuity of instructional aims and purposes, the science work of both the elementary and high school grades should be organized as a single supervisory unit. The need of the agency of a supervisor of science in the . . . school system is urgent.²

In order to provide a uniform excellence of organization and of method in the teaching of foreign languages . . . it is . . . recommended that a foreign-language director . . . be attached to the superintendent's office.³

Unified supervision of school libraries should be provided for by the appointment of a school library supervisor.⁴

It is clear from the foregoing quotations that the responsibility for determining what shall be taught and how it shall be taught is to be transferred from the high-school principals to the newly appointed specialists. The principals are to be "yes" men so far as the supervision of instruction is concerned. The survey report is quite emphatic, however, in stating that the principalship shall increase, not diminish, in importance.

It is strongly recommended that all the principals of . . . secondary schools accept the improvement of teaching as their primary responsibility and that they co-operatively and individually devise means of performing this duty more effectively.⁵

It is obvious to one who studies the secondary schools of . . . that what is needed more than anything else is leadership. A definite general policy must be enunciated by the superintendent; sympathy with it and a willingness to work for it must be developed in the teachers. But it cannot be effective without professional co-operation and active leadership by the principals. Stimulated from above and agreeing among themselves on the purpose of secondary education as the fitting of each individual adolescent for better social living, they can lead their teachers to mighty accomplishment for public good. The secondary school today is a potent instrument to determine the progress of the next generation. Its success depends on the vision, the courage, the industry, the tact—in short, on the leadership of its principal. Hence the emphasis in this report on the fact that the principal should be professionally-minded.⁶

These sharply contrasting points of view suggest that it is the work of the specialists to take the child apart and the work of the

¹ *Ibid.*, IV, 343.

² *Ibid.*, IV, 320.

³ *Ibid.*, IV, 190.

⁴ *Ibid.*, IV, 246.

⁵ *Ibid.*, II, 106.

⁶ *Ibid.*, II, 106-7.

principal to put him together again. Such a conclusion would be grossly unfair to the specialists; they have a significant contribution to make to the advance of secondary education. The purpose of this discussion is to analyze the functions of the specialist and the principal and to indicate the administrative relations which should obtain. The problem is by no means confined to the largest cities. It will be found in any community which has two or more distinct units for secondary education, as, for example, a junior high school separate from a senior high school.

Consider the problem in a typical setting. A community has a junior high school and a senior high school. The principal of the junior high school has made a careful study of junior high school education and is attempting to offer a progressive type of secondary education in Grades VII, VIII, and IX. The principal of the senior high school has had difficulty in adjusting himself and his school to the junior high school movement. The department heads in the senior high school have supervisory responsibility for the junior high school work in their respective fields. The specialist in English believes that the objectives of language and literature are sufficiently distinct and the needs of children in these aspects sufficiently diverse to demand the separation of language and literature throughout the secondary-school period. The principal of the junior high school agrees. The principal of the senior high school dissents. He sincerely believes that the proposal of the specialist is inconsistent with effective work in his school. Here is an apparent conflict between the need for a course of study in English which will unify effort in this field throughout the secondary-school period and the need for the integration of the education of the pupil within the senior high school.

Again, the specialist in home economics conceives the functions of her field as transcending training in the techniques of home-making. Her course of study must include hygiene and sanitation, home decoration, responsibilities of parenthood, the community relations of the family, and, in addition, vocational training for girls. The principals of the junior and senior high schools are unsympathetic. They contend that much of what she plans to include is already being treated in general science, biology, art, and community

civics. She argues that educational materials should be re-aligned according to objectives. Home economics is a field of education, not just a subject.

These illustrations will serve to point out the following possibilities of conflict. (1) The specialist and one principal agree; the other principal dissents. (2) The principals agree; the specialist dissents. It need hardly be mentioned that the question of who is right does not arise. All three may agree perfectly and still be wrong.

The issue is: In case of conflict of purpose between the principal and the specialist, who shall have the authority to resolve the conflict? In our schools as they are at present organized principals pretty largely have final authority in such matters. The principal's lack of true understanding of some of the problems which the specialist faces and the need for unifying the objectives and content of courses in two or more articulated or parallel schools have given impetus to the movement to free the specialist from the domination of the principal. In many school systems the result in the first case cited would be that the work in English would lack unity as it would be organized differently in the junior and senior high schools; in the second case the teacher of home economics would be forced to limit her activities to training in the techniques of home-making, securing such co-operation as she could from teachers of related subjects.

The constitutional optimist will say that the situation pictured is overdrawn and that in an actual case the principals and the specialists will work out a plan that is agreeable to all concerned. That is true in some cases only. When the lines of authority and responsibility give control over the industrial work in all the secondary schools of a system to a director of vocational education, with the salary and title of assistant superintendent, the principals must accept his dictums if they cannot persuade him to consider their views. True co-operation is possible only among those of approximately equal status.

Before the relation which in the writer's judgment should obtain between the principal and the specialist is defined, it is worth while to point out that both the principal and the specialist have distorted views of secondary education. The principal tends more

than does the specialist to look at the pupil as a whole, but the principal's training and experience have been almost completely along academic lines. He has probably given more time to the study of education than has the specialist, and he thinks more readily in terms of the general objectives of secondary education. The principal tries to look at the whole picture, but his experience throws an academic haze over it. He sees certain details clearly; others vaguely, if at all.

The specialist, on the other hand, has had to give so much time to the mastery of his special field that his recognition of the general objectives of education is likely to be superficial, if not definitely faulty. His work forces him so constantly to view only one phase of the pupil's development that it is little wonder he tends to magnify the importance of his field. The specialist who combines (1) a mastery of his subject, (2) knowledge of the details of content and method appropriate to his field, (3) general competence in the principles of education, and (4) an unexaggerated sense of the importance of his field is so rare that it is hopeless to expect to find him in quantities sufficient to supply the demand.

If it is granted that the specialist is needed to work out the details of curriculum and methodology and that the principal is needed to integrate all phases of instruction within his school in the direction of appropriate general objectives, does it not follow that the principal and the specialist must be on an equal footing in the school system? Such a conclusion appears inevitable if we are to secure proper leadership in both positions. If the specialists are to be subordinate to the principals, there is little to attract competent people to undertake the training necessary for leadership in a special field. If the principals are to be inferior in rank and in authority to the specialists, the principalship will be a position for relatively second-rate men. The thesis here advanced is that both positions demand leadership of a high order.

The effective working of a plan of supervision wherein the principal and the specialist are free from domination by each other implies the necessity of determining their respective functions in such a manner that responsibility for a given function may be located in a single individual. Otherwise, neither the principal nor the special-

ist will know where his job begins and ends. Teachers need to know where they should look for guidance in a given phase of their work. The following analysis indicates the lines along which the differentiation of function between the principal and the specialist may be attempted. Such an analysis is helpful only as it tends to create conditions favorable to co-operative effort. It is not intended that the responsibilities of either the principal or the specialist shall be narrowly defined.

FUNCTIONS OF THE PRINCIPAL AND THE SPECIALIST IN
THE SUPERVISION OF INSTRUCTION¹

PRINCIPAL'S RESPONSIBILITY

1. To co-ordinate instruction in all the special fields in the light of general objectives.
2. To preserve an appropriate balance in the attention accorded to the various special fields.
3. To develop a consistent philosophy of education in teachers in all fields.
4. To guide teachers, particularly inexperienced teachers, in their use of general methods of teaching.
5. To study pupil needs in general.
6. To study pupil progress in general.
7. To direct experimentation involving more than one field.
8. To conduct conferences of teachers on problems of general method.
9. To stimulate teachers to improve their understanding of education in general.

SPECIALIST'S RESPONSIBILITY

1. To define detailed objectives of special field in harmony with general objectives.
2. To select appropriate subject matter for courses in special field.
3. To guide special methods of teaching.
4. To select equipment, books, and materials within limits set by general administration.
5. To study pupil needs in special field.

¹ This analysis assumes that the principal and the specialist are co-ordinate in rank in the school system.

6. To study pupil progress in special field.
7. To experiment in special field.
8. To co-ordinate instruction in special field between junior and senior high schools.
9. To conduct conferences of teachers in special field.
10. To stimulate teachers to extend their mastery of their special field.

JOINT RESPONSIBILITY

1. To define the place of the special field in the total program of secondary education, time allotments, etc.
2. To avoid undesirable overlapping of two or more special fields.
3. To select, promote, and assign teachers (in so far as delegated).
4. To consider any proposal initiated by either principal or specialist which necessarily implicates the other.

It will be noted that in some phases of instruction the responsibilities of the principal and the specialist overlap to such a degree that joint responsibility is indicated. The highly important function of recommending teachers for appointment is such a responsibility. The specialist may argue that he should initiate recommendations for appointment as he alone in the system is competent to judge the candidates' technical qualifications for work in his field. The principal, on the other hand, may maintain that the method of appointment should be such as to give the teachers a sense of loyalty to the organization over which he presides. The existence of a joint responsibility here is apparent. The solution suggested is that the specialist certify to the competence of several candidates, any one of whom he would be willing to see appointed, and that the principal make his selection from such a list. If, in the case of joint responsibility, the principal and the specialist cannot reach an agreement, either should be free to take the issue to a higher authority. This recourse of the specialist to the superintendent should not be regarded as "going over the head" of the principal. If the principal and the specialist are to be on an equal footing, as is here proposed, neither stands between the superintendent and the other. The superintendent is the arbitrator of their differences.

Only the largest school systems in the country can justify the employment of a group of specialists whose entire time is devoted to the problems of their respective fields. In a city of 100,000 population or more it is probably desirable that a director of secondary education be employed who would co-ordinate the activities of the specialists and the principals. This director would be chairman of a council on secondary education composed of the principals of all schools of secondary grade and specialists representing every phase of the work of instruction and guidance. Jointly, this group would work out an integrated program for secondary education in the city.

In medium-sized and small cities the organization need not be so elaborate. The superintendent of schools or one of the principals, not necessarily the principal of the senior high school, might serve as the chairman of the council on secondary education. Perhaps only a few fields would justify the employment of full-time specialists. In other fields leading teachers might be designated to deal with the problems of the specialists and to represent the fields in the council on secondary education. Specialists attached to state departments of education or to university schools of education could be employed from time to time in an advisory capacity. The details of the supervisory organization would necessarily vary from community to community. Even the smallest communities should make some provision for directing toward common ends the activities of teachers, who, to a marked extent, are necessarily specialists.

The creation of a council on secondary education in which the principals and the specialists are co-ordinate does not imply that the strong secondary-school principal will not continue to determine in large measure the policies which are adopted. He will prove his strength, however, not by the display of authority but by the soundness of his judgment and the conviction which it carries.

A PRELIMINARY STUDY OF MATHEMATICAL DIFFICULTIES

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It has been the writer's experience during twenty-five years of teaching that many pupils studying algebra have difficulty with simultaneous equations, both simple and quadratic, because of inability to add and subtract fractions, to substitute, and to deal with negative numbers. In 1926-27 the members of the mathematics department of the Franklin High School, Seattle, Washington, gave a number of tests in elementary algebra to classes ranging in grade from IX B to XII A. An examination of the papers showed that many failures on comparatively simple questions were due to a lack of understanding of the elementary operations. Moreover, Juniors and Seniors often made the same mistakes that were made by Freshmen. The inquiry was extended to four high schools and included ten sections with an average enrolment of about 230.

It was apparent from the initial inquiry that the tests should include even more elementary operations if the real difficulties were to be discovered. On September 16, 1927, simpler tests were sent to each co-operating teacher with complete instructions as to procedure. All the teachers understood the importance of complying with the instructions.

The first four columns of Table I show the percentage of failures for each school on each of the forty examples in the test. Nine per cent of the fifty-six pupils in School A who took the test failed on the first example in addition. In School D eighty pupils took the test, and 8 per cent of these pupils failed on the same example. The results in the case of a class of fifteen pupils in Algebra III are not shown, but it is of interest to know that the sequence of high and low percentages of failures corresponds closely with the sequence of high and low percentages of failures of pupils in courses at lower levels. The percentages in general were lower but were too high.

In considering the results, one should remember that this is only

a preliminary attempt to discover some of the difficulties that cause failures in algebra. It is hoped that many more will be brought to light by the methods employed. No attempt whatever is made to place any responsibility on any system, school, grade, or teacher. No one knows which schools are represented in the tables. The head of each department, however, was told the percentages of failures in his own school. As stated to those assisting in the work, the problem is to lessen the number of failures and to increase the pupils' knowledge of the operations involved.

When Dean Frederick E. Bolton, of the University of Washington, saw the results, he requested a set of the test papers for administration to students in the department of education. The last four columns in Table I show the percentage of failures on each example for each of the university groups which took the test. The general trend of errors is, with few exceptions, strikingly similar to that in the case of the high-school pupils. For example, the percentages of failures on Example 4 in addition are higher than the percentages of failures on the three preceding examples for both high-school pupils and university students. The percentages drop again on Example 5, are still lower on Example 6, and rise on Examples 7-10 except in the case of School A (Example 7).

When the high-school teachers who gave the tests were shown the results in Table I, some of them exclaimed, "What is the use of trying to teach algebra when so many pupils make mistakes on such simple questions? No wonder algebra is considered hard." Even if allowance is made for carelessness, it still seems clear that the following question is pertinent: Are the fundamental conceptions and operations being taught efficiently? The evidence indicates that they are not.

As the time to be devoted to remedial work was limited, the writer was requested to deal with the operation of subtraction first in planning the second search for difficulties. A preliminary and rather hurried diagnosis of the causes of the failures showed a widespread lack of knowledge of the different forms in which the operation of subtraction can appear and uncertainty among many pupils as to the operation itself. Moreover, in individual conferences with the teachers as to the form in which the questions were to be given,

TABLE I

PERCENTAGE OF PUPILS IN FOUR HIGH SCHOOLS IN SEATTLE AND PERCENTAGE OF STUDENTS IN THE UNIVERSITY OF WASHINGTON MAKING ERRORS IN EXAMPLES IN ADDITION, SUBTRACTION, MULTIPLICATION, AND DIVISION

EXAMPLE	HIGH SCHOOLS				UNIVERSITY OF WASHINGTON			
	School A (56 Pu- pils)	School B (68 Pu- pils)	School C (56 Pu- pils)	School D (80 Pu- pils)	Section A (66 Stu- dents)	Section B (79 Stu- dents)	Section C (40 Stu- dents)	Section D (45 Stu- dents)
Add:								
1. 8 and -12.....	9	9	4	8	5	6	8	18
2. -18 and 12.....	10	9	4	8	14	8	18	18
3. -3a and 16a.....	9	15	12	16	18	20	22	20
4. 2b and -4a.....	21	37	62	41	45	39	52	69
5. 6a-3b and 3b-6a..	16	16	23	24	29	23	18	22
6. $\frac{1}{2}$ and $\frac{1}{4}$	5	7	16	10	9	10	2	7
7. $\frac{3}{4}$ and $\frac{1}{2}$	5	22	20	28	20	24	15	29
8. -2 and $\frac{3}{4}$	45	44	39	50	21	20	28	42
9. $\frac{3}{4}$ and - $\frac{1}{2}$	23	43	37	49	24	28	28	40
10. - $\frac{1}{4}$ and $\frac{3}{4}$	30	43	21	29	20	28	38	40
Subtract:								
1. 3 from -2.....	54	49	75	50	55	39	55	69
2. -2 from 4.....	48	53	73	41	64	51	52	78
3. 8 from 3.....	34	38	64	30	39	24	28	29
4. -9 from -6.....	46	38	71	45	61	43	42	73
5. 4a from 2a.....	30	41	43	34	41	25	25	33
6. -12a from 8a.....	57	49	82	55	68	59	60	75
7. 7a from -3a.....	50	44	79	50	65	49	50	71
8. $\frac{1}{2}$ from $\frac{3}{4}$	16	27	16	15	33	10	20	20
9. $\frac{3}{4}$ from $\frac{1}{2}$	46	54	61	46	53	43	45	31
10. - $\frac{2}{3}$ from - $\frac{1}{3}$	62	62	71	54	59	51	55	78
Multiply:								
1. 4629 by 93.....	34	38	21	26	26	24	25	31
2. 3a by 2.....	0	1	2	6	8	4	5	0
3. 6b by 3a.....	0	12	12	4	12	11	8	16
4. 2b by -3b.....	20	10	11	8	29	46	40	56
5. -2a by -3a.....	20	16	9	12	41	52	40	47
6. 3 by 2 $\frac{1}{2}$	14	13	2	14	17	6	2	4
7. 2 $\frac{1}{2}$ by 4.....	29	25	21	29	17	13	15	9
8. 4 $\frac{1}{2}$ by $\frac{3}{4}$	59	59	21	51	29	37	30	29
9. - $\frac{1}{2}$ by $\frac{1}{4}$	59	38	16	44	36	27	28	22
10. 5 by $\frac{3}{4}$	43	28	9	25	27	22	18	16
Divide:								
1. 4298 by 12.....	20	37	23	19	35	32	10	29
2. 8a by -3a.....	73	69	57	71	45	67	62	64
3. -2b by 8.....	75	68	46	92	55	56	50	51
4. -2a by -3ab.....	86	78	79	75	58	70	68	67
5. 4abx by -2bx.....	46	46	54	46	63	54	48	62
6. 4 by $\frac{1}{2}$	55	51	27	62	53	41	45	47
7. $\frac{3}{4}$ by 3.....	54	60	48	65	45	42	45	58
8. $\frac{3}{4}$ by $\frac{1}{2}$	57	54	21	45	38	42	45	49
9. - $\frac{1}{2}$ by 3.....	52	60	43	56	52	47	30	53
10. $\frac{1}{2}$ by $\frac{1}{4}$	25	40	7	35	32	32	25	33

objections were made by some to one or more of the forms because "my pupils are never taught subtraction in that form and therefore cannot do well." Pupils should, of course, be familiar with all the forms in which subtraction occurs if it is to be assumed that they have mastered the subject. Accordingly, the following drill exercises were prepared and sent to the teachers with instructions to drill half the sections that had taken the first test.

SUBTRACTION DRILL

Please drill ten minutes a day for two weeks beginning October 3, 1927.

On Tuesday, October 18, the tests in fundamental operations will be given again. Therefore, do not use in the drill any of the examples in the tests; use only the examples suggested here.

First, teach the following until the pupil fully grasps the fact that the seven different forms stand for the same operation.

A

1. Subtract 6 from 9
2. 9 less 6
3. Take 6 from 9
4. 9 minus 6

5. $9-6$
6. 9 diminished by 6
7. $\begin{array}{r} 9 \\ -6 \\ \hline \end{array}$

Apply all seven forms of A to the following pairs of numbers.

B

1. 12 and 8
2. 2 and 14
3. -3 and 7
4. -6 and -4
5. 9 and -4
6. $5a$ and $3a$

7. $-2a$ and $5a$
8. $4b$ and $3a$
9. $-2a$ and $6b$
10. $4a-2b$ and $3a-b$
11. $-2a-4a$ and $b-3a$
12. $-5a-2b$ and $3b-4a$

By reversing the order in Set B you have another set.

Do *not* reverse the same day.

Do *not* use the seven forms successively on the same example.

Apply Form 1 of A on all twelve examples, then Form 2, etc., and the next day reverse the order of the parts and use the seven forms on each. There are then 168 examples in Set B for use for two or more days of drill.

C

Take the first five examples of Set B; use the numbers given as denominators with unity the numerators, and apply all seven forms of A to each example. For example, $\frac{1}{12}$ from $\frac{1}{8}$, etc.

Reverse the order the following day. There will thus be seventy examples in Set C for the two or more days of work.

Board work by one or more, work on paper, and oral work should be employed at the discretion of the teacher.

The work was not merely drill in the usually accepted meaning of the word. The pupils were first to understand that all the forms for subtraction give identically the same answer. The drill was largely to emphasize this fact as well as to make clear the method of dealing with negative numbers in subtraction.

Table II shows the percentage of failures on each of the ten examples in subtraction for a drilled section in each of the four schools. The first column in each case gives the results of the initial test; the

TABLE II
PERCENTAGE OF PUPILS IN DRILLED SECTIONS IN FOUR HIGH SCHOOLS MAKING ERRORS IN EXAMPLES IN SUBTRACTION IN INITIAL TEST (1), IN FIRST RETEST (2) AFTER 100 MINUTES OF DRILL, AND IN SECOND RETEST (3) AFTER A LAPSE OF TWO MONTHS

EXAMPLE	SCHOOL A (26 PUPILS)			SCHOOL B (25 PUPILS)			SCHOOL C (28 PUPILS)			SCHOOL D (21 PUPILS)		
	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
Subtract:												
1. 3 from -2.....	58	14	10	44	12	15	68	0	15	70	19	22
2. -2 from 4.....	62	18	13	44	12	15	68	4	23	85	29	11
3. 8 from 3.....	46	14	10	36	8	10	54	7	7	55	19	11
4. -9 from -6.....	62	9	5	40	21	19	71	7	4	55	19	11
5. 4a from 2a.....	38	5	10	40	12	15	39	7	7	75	19	11
6. -12a from 8a.....	73	14	19	48	25	15	79	14	27	70	38	22
7. 7a from -3a.....	61	14	13	44	17	20	75	7	12	65	24	17
8. $\frac{1}{2}$ from $\frac{1}{4}$	15	14	5	36	12	20	14	7	12	60	24	17
9. $\frac{1}{2}$ from $\frac{1}{4}$	62	27	19	56	29	15	57	11	27	55	38	17
10. $-\frac{1}{2}$ from $-\frac{1}{4}$	77	23	13	68	38	39	71	14	34	55	38	22
Mean.....	55.4	15.2	11.7	45.6	18.6	18.3	59.6	7.8	16.8	64.5	26.7	16.1

second column, the results of the first retest after 100 minutes of drill during a period of ten days; and the third column, the results of the second retest after a lapse of two months. There was no drill between the first and the second retests. Twenty-six pupils in School A took the tests. Fifty-eight per cent of these pupils failed on the first example in the first test; 14 per cent, in the first retest; and 10 per cent, in the second retest after a lapse of two months, during which period there was no drill.

In all four schools there was a marked decrease in the percentage of failures in the first retest, and the effects of the drill were still evident after a lapse of two months. For example, in School A the

mean percentage of failures for the ten examples was 55.4 in the first test, 15.2 in the first retest, and 11.7 in the second retest. School C was the only school that did not show improvement in the second retest.

In Table III are corresponding data for sections in three schools that were not drilled between the first and second tests. In comparing the records in Table II with those in Table III, one should note that the best records in the first test were made by the first two sec-

TABLE III

PERCENTAGE OF PUPILS IN CONTROLLED SECTIONS IN THREE HIGH SCHOOLS MAKING ERRORS IN EXAMPLES IN SUBTRACTION IN INITIAL TEST (1), IN FIRST RETEST (2) WITHOUT DRILL, AND IN SECOND RETEST (3) AFTER A LAPSE OF TWO MONTHS

EXAMPLE	SCHOOL A (29 PUPILS)			SCHOOL B (29 PUPILS)			SCHOOL C (29 PUPILS)		
	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3*	Test 1	Test 2	Test 3
Subtract:									
1. 3 from -2.....	50	36	12	33	12	.....	79	31	19
2. -2 from 4.....	37	39	8	29	25	.....	79	27	25
3. 8 from 3.....	23	21	8	21	12	.....	39	4	0
4. -9 from -6.....	33	29	17	25	25	.....	75	35	15
5. 4a from 2a.....	23	21	12	12	12	.....	39	12	4
6. -12a from 8a.....	43	39	12	29	29	.....	86	20	15
7. 7a from -3a.....	40	39	12	21	29	.....	79	27	15
8. $\frac{1}{2}$ from $\frac{1}{4}$	20	25	17	21	33	.....	14	19	19
9. $\frac{3}{4}$ from $\frac{1}{4}$	30	39	25	47	38	.....	65	7	11
10. - $\frac{1}{2}$ from - $\frac{1}{4}$	47	45	12	54	58	.....	75	42	26
Mean.....	34.6	33.3	13.5	29.2	27.3	.....	63.0	22.4	14.9

* This test was not given.

tions which were not drilled. It is unfortunate that one of these was not among the sections to be drilled.

The study here reported indicates at least two things. First, there are difficulties in mathematics consisting of fundamental concepts and skills. These difficulties persist through higher levels. They should be isolated and mastery attempted. Second, methods for attaining mastery must be found. In this study, drill, as defined earlier, was used, and, within the narrow limits of the experiment, it appears to be effective.

GENERAL LANGUAGE

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The publication of several textbooks in the field of general language, continued reports of the introduction of general-language courses, and interested inquiries from many school administrators indicate that the first tentative experimental stages in the formulation of such courses are nearing an end and that there is about to be a more general introduction of them into the secondary-school curriculum.

It would be far from correct, however, to say that very definite agreement has been reached as to the location of the general-language course in the curriculum or as to its objectives, method, and content. Lack of agreement, to be sure, is not peculiar to general-language courses, but greater confusion is prevalent here because of the relative youth of the course. Moreover, it is interesting to note that, brief though its history is, a hampering tradition plays a rôle in general language, as in most of the other secondary fields.

A sketch of the genesis of the course may throw light on this last statement as well as on the entire discussion of the course. The stimulating influence of the junior high school movement planted the germ of the course along with that of other "general" courses. Because the revolt against "formal grammar," or "grammar as such," left the English department indisposed to interest itself in language as such and because foreign languages, particularly Latin, were under fire and in danger of losing prestige in the struggle of electives, it was the foreign-language teacher, especially the Latin teacher, who bestirred himself to organize a course in general language. Thus, naturally, it became a part of the foreign-language department and was an introductory, "finding," "tryout" course in foreign language primarily. In other words, it was, and in most cases still is, a general *foreign*-language course. The predominant aims were to awaken interest in the study of foreign languages and

to give doses, generally sugar-coated, of various foreign languages so as to enable pupils to decide which one they should elect. Word study, help in understanding English, and other general language work were included, it is true, but in the same incidental fashion in which they are included in the regular foreign-language syllabus. Therefore, while the foreign-language field must receive the credit for originating a potentially valuable addition to the curriculum, it must also bear the responsibility for what, in the writer's opinion, is an unfortunate narrowing of its possibilities. This opinion is the result of assisting with and observing an experimental course in the schools of Richmond, Indiana, for more than ten years. It might be added incidentally that the writer does not mean to imply that short tryout courses in foreign language are out of place in the junior high school. It is merely contended that they are not general-language courses.

With this introduction in mind, let us set down some possible aims of a general-language course other than an exploratory investigation into the values, content, and method of foreign-language learning which would be of special interest to the foreign-language department:

1. An inductive laboratory study of the grammatical and syntactic principles of English for the purpose of developing language skills of value in themselves, retaining the advantages of English grammar study and eliminating the faults of the old formal courses.
2. A study of the social, biological, and psychological background of language development with incidental references to language technique.
3. A study of principles common to all languages for the purpose of furnishing a basis for more intelligent use and study of either the vernacular or foreign languages.
4. An awakening in the young pupils of an abiding interest in language per se and some understanding of it as a human tool of fascinating history and important usefulness.
5. An attempt to combine all these aims in one study.

One must object to the first aim for much the same reason that one objects to emphasis on foreign language. Such work belongs properly to the regular English courses and can be adequately han-

dled by them. A real general-language course should be no more a study of the English language than of foreign language; it should be an introduction to both, just as general science is not chemistry or zoölogy but an introduction to these sciences through a study of common science facts, of the values of science, and of its useful cultural contributions to general well-being. General language should be not a study *in* language primarily but quite frankly a study *about* language. It should precede a more detailed, technical study of particular languages by an approach through language to principles, whereas language study has generally used the reverse order.

The basis provided by the second, third, and fourth aims seems better adapted to the needs in language study. The fourth aim should be the principal one, the second and third aims being secondary and complementary to it. In the past, language study has been variously handled in the guise of social science, linguistics, and language as such. English and foreign-language teachers have floundered about among these fields without making very clear-cut distinctions and without doing justice to any point of view. It is to be hoped that discussion of general-language work, with some such aims as those stated, will provide an approach not merely to the teaching and study of general language but also to the thinking concerned with the aims, content, method, and division of labor in the whole field of language.

An outline of the material that should be found in such a course would be somewhat as follows:

1. Origin and development of language
2. Language as a social tool
3. Language as the expression of ideas
4. Language and thinking
5. Structure of language (general principles)
 - a) Grammar
 - b) Syntax and analysis
 - c) Orthography
 - d) Phonetics
 - e) Inflection
 - f) Position

- g) Clearness
- h) Emphasis
- i) Simplicity
- j) The sentence and connected discourse
- 6. Origin and development of written language
 - a) The alphabet
 - b) Writing and writing materials
- 7. Semantics
- 8. Comparative language
- 9. Historical and social background of language and languages
- 10. The learning of language

Suggestions as to special method are often presumptuous, biased, and narrow. The milieu in which this course is used and the training of those whose task it is to teach it will vary so much that special adaptations will be necessary. However, it may be pointed out that language, no less than science, is an inexhaustible source of intrinsically valuable illustrative material and that the laboratory method will certainly prove successful; moreover, excursions into the contiguous fields of social science, history, biology, physiology, and psychology are available for any who want to make them.

In the Richmond schools a textbook in mimeographed form has been provided. This book has, of course, been changed from time to time in the light of classroom experience. It includes a treatment of the material outlined and is intended as a guide, laboratory manual, and reference rather than as a textbook to be learned. The actual classroom work is based on such activities as the following:

Experiments in phonetics

Use of the dictionary

Illustrations of the romance of the history of words, phrases, mottoes, etc.

Illustrations of gesture language and the making of a gesture language

Collections of trademarks and other modern examples of non-alphabetic writing

The making of rebuses and charades

Reports on the history of letters of the alphabet, printing, book-making, libraries, etc.

Comparative study of English and Latin sentences to illustrate inflection, position, emphasis, etc.

Reports on "baby talk"

Use of the inexhaustible store of pictures, coins, and sketches illustrating language forms

Use of maps and stories to supplement the study of primitive man and his followers in the history of language-making

Such material is so abundant, so easy of access, and so interesting even in the search for it that careful selection must be made in order to insure an extensive sampling and pedagogical utility in attaining the aims of the course. Much time can be wasted playing too long with the strange-looking Chinese characters just because they are peculiar, in dallying too much with certain interesting fables about the Greeks that have more relevancy to the aims of the social studies, and in writing or committing to memory Latin, Greek, French, and Spanish words and expressions that illustrate nothing in particular. Such things are not taboo, but distinction must be made between merely playing language games and studying language so as to understand it, respect it, and be abidingly interested in it.

Where should such a course come in the secondary-school system, and in what department should it be? These two questions should be solved together. The course is usually placed in the junior high school at the end of the seventh grade or at the beginning of the eighth grade. This may be the place for it; the fact that it is there, however, is not the result of scientific reflection but the result of its origin as a preliminary foreign-language course. Would it be more valuable later when pupils have more language maturity, especially those who elect foreign language? Would it function best as a part of the English department, as a part of the foreign-language department, or as a joint project of the two departments? Could the material be handled better if it were incorporated into the regular English courses? Should there be both a general-language course and exploratory courses in foreign language? These are all problems to be settled by administrative officers and curriculum-builders.

If the general-language work and the exploratory foreign-lan-

guage work are combined, the writer's opinion is that the course should come somewhere in the eighth grade, should be worked out jointly by the English and the foreign-language departments, and should, of course, precede the study of foreign language. The junior high school English course should be reorganized so that the general-language course will fit into it coherently and without duplication. The foreign-language department should prepare genuine tryout lessons in the various languages, based on the actual method and content of the regular courses; these lessons could be given during the last few weeks of the general-language course. If, however, the general-language course is given independently of the exploratory courses, it may well come in the ninth grade. Whether these courses should be given separately or combined in one semester is largely a problem for local administration; one semester devoted to general language alone is not too much.

In either case, the course would profit if it were administered jointly by the English and the foreign-language departments. The general-language course surely has values for both English and foreign languages, and these two fields as surely have contributions to make to the content of the course. Both departments will profit, too, if they are so directly concerned with the general-language course that they will revise and adapt their courses in the light of the contribution of the general course. Therefore, the English and the foreign-language departments should co-operate in making the general-language course.

A pooling of the ideas extant as to the aims and purposes of general-language courses and an investigation of existing content, methods, and devices so as to provide a basis for a really comprehensive study of the possibilities are very much needed. If the tone of this article seems sometimes dogmatic, it is due not to a belief that divine inspiration has descended on the writer but to a hope that a provocative article will call forth other articles.

INTRODUCING A PROGRAM OF EXTRA-CURRICULUM ACTIVITIES IN A JUNIOR HIGH SCHOOL

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Perhaps there is no phase of secondary education that calls for special training and leadership so much as does the program of extra-curriculum activities. Not only must the principal and the faculty have specific training in the aims, functions, and activities of such a program, but real leadership is necessary to carry through anything like a vigorous, constructive piece of work; consequently, it is the opinion of the writer that, if anything worth while is to be accomplished in the high school along the lines of extra-curriculum activities, the place to begin is with the faculty. Unless the faculty has definite training, an appreciative background, and a whole-hearted attitude and is willing to co-operate thoroughly, the project is a failure from the beginning; but, with a trained principal and a co-operative faculty, there are untold possibilities in this field.

During the school year 1926-27 the writer co-operated with the principal of the Memorial Junior High School of Tampa, Florida, in working out a program of extra-curriculum activities. His experience is perhaps of enough significance to illustrate the possibilities in this field.

Tampa, Florida, is a city of approximately 200,000 population. It has four junior high schools operating and one under construction besides two large senior high schools. In 1926-27 the Memorial Junior High School had fifteen hundred pupils in Grades VII, VIII, and IX and a faculty of approximately forty members. It offered the regular routine work of an academic nature found in the ordinary junior high school. In addition, there was the usual work in home economics, manual arts, music, drawing, and commerce. The building was completed during the closing days of the preceding school term, and the pupils were transferred to it a few days before the end of the term. The principal, J. W. Compton, used the first

semester to amalgamate the pupil body into an organic whole. The pupils came to this school from fourteen ward schools, three private schools, and several rural schools. As a result, there was brought together a very heterogeneous group. At the close of the semester the principal felt that he had solidified the school and that it had settled down to the routine of work well enough for him to begin a constructive program of extra-curriculum activities. After a conference with the writer, the principal arranged with the faculty for six faculty meetings on six consecutive Saturday afternoons from two to five o'clock. There was a distinct understanding between the principal and the faculty that the purpose of these extended faculty meetings was to make an intensive study of pupil activities preliminary to organizing a program that would fit the school and to introducing such parts of it as were advisable during the second semester; consequently, there was a wholesome attitude on the part of the faculty from the very beginning and a clear understanding as to the purpose of the meetings.

The principal explained to the parent-teacher association what he was proposing to do and requested the co-operation and interest of the parents. The parent-teacher association wholeheartedly indorsed the program and generously agreed to bear the largest share of the financial burden. It was arranged that the mothers should attend the conferences or classes. In this way the mothers had about as intelligent an understanding of the whole project as did the faculty; many of the mothers came regularly and did a large part of the assigned reading.

To make each meeting as profitable as possible, the writer and the principal agreed on the following topics for discussion during the six meetings.

1. Aims and functions of a program of extra-curriculum activities; the faculty's part in such a program
2. Home room
3. Club program
4. Assemblies
5. Publications
6. Student participation in school control
7. Thrift program
8. Health program

Through the co-operation of the city superintendent of schools, the county superintendent of schools, and the director of high schools, copies of all the books in the field of extra-curriculum activities were purchased for the high-school library and put at the disposal of the teachers. A great deal of additional collateral reading was added to the library temporarily through the General Extension Division of the University of Florida, under whose auspices the work was carried on.

As a preparation for the first meeting definite assignments were made and placed in each teacher's mail box. In this way the whole faculty came to the first meeting prepared for an intelligent group discussion of the topic under consideration.

In order to make the work most effective, the forty teachers were divided into groups of approximately five teachers to a group. Each teacher was asked to select the topic that she would most prefer working on as a member of a group. It happened that the various groups were approximately the same size. Each group was asked to be responsible for its report at one meeting. The groups organized, elected their chairmen, and began a definite study of their topics. The first committee to report did an unusually good piece of work. The report consisted of six pages. Mimeographed copies of this report were placed in the teachers' mail boxes two days before the meeting. When the group met, the report was thoroughly familiar to every person, and it was largely the work of the instructor to direct the thinking and the work of the group during the three-hour period. From the very beginning the meetings were stimulating. The second committee report was equally as good as the first, and again early distribution made it possible for each teacher to study the report in advance of the meeting. This was the procedure in the case of the six three-hour group meetings.

The principal, the assistant principal, and the chairmen of the eight groups acted as a general committee to summarize the eight reports as a basis for the administrative machinery in the new project. At each of the eight group meetings, before the discussion was closed, the entire faculty agreed on the details of the organization of the particular topic that would be appropriate and adaptable to the local school situation. Consequently, the general committee

merely had to combine these committee reports and their findings into one general working program. Frequently the discussion waxed warm among the teachers as to the advisability of certain points of administration in some of the reports, but the whole matter was worked out on a democratic basis with the majority rule operating in every instance.

To conclude the project and to reduce it to a working basis thoroughly understood by both patrons and teachers, the following program was arranged. A large percentage of the members of the parent-teacher association were present and listened to the discussion.

TRAINING IN CITIZENSHIP

1. Greetings
2. Teaching citizenship
 - a) Through a thrift program inaugurated in the Memorial Junior High School
 - b) Through a better health program operating in the Memorial Junior High School
 - c) By so organizing the Memorial Junior High School as to convert it into a laboratory for practice in developing right habits and attitudes of proper conduct
 - d) Through a club program that develops the best social, moral, and intellectual side of the children participating in it
 - e) By making the home room *home*
3. How the P.T.A. can assist in furthering such a program (by the president of the P.T.A.)
4. Echo from the director of high schools
5. Address by instructor (summary of the course)
6. Refreshments served by the P.T.A.
7. Adjournment

It was the purpose of this program to show how the whole matter of high-school training centers around the thought of training for citizenship. This idea is evident from a careful reading of the program.

Immediately after the close of the course, the general committee began its work of arranging a program of activities that would be adaptable to the school. After the work of the committee was completed, there was time for a discussion of the program at one or two general faculty meetings before the close of the school year.

The school opened for the first semester of the school year 1927-28 with only a few changes in the faculty; consequently, the principal and the assistant principal were able to inaugurate shortly after the opening of school the program of pupil activities that had been worked out the previous year.

In planning a really substantial program of extra-curriculum activities, the principal felt that all pupil activities must be dignified and scheduled as are curricular activities. He recognized the fact that the social and moral training resulting from such a procedure is just as essential and as worth while as that resulting from any other phase of school training. Acting on this philosophy, he provided in the daily schedule one regular period a day to be known as the "activities period." By so doing, he was able to organize, systematize, and schedule every desirable pupil activity in the school. The program is as follows: Monday, clubs; Tuesday, home room (citizenship work); Wednesday, assembly (half of school); Thursday, home room (health work); Friday, assembly (other half of school).

In their work in clubs, citizenship, and health the teachers used as their guide and reference the full mimeographed report prepared by the committee when the special study was being made in the beginning. This report served not only to direct the teachers but in a large measure to unify the work of the various home rooms. The citizenship and health work was done by the home-room teachers, as the program indicates.

Thoroughly convinced that any dynamic program of pupil activities must in the final analysis be carried by the faculty, the principal appointed a faculty committee of five, with the principal and the assistant principal as ex-officio members, which acts as an advisory board on all extra-curriculum activities. This committee meets weekly and spends considerable time in studying the problems that arise and in advising with the principal as to the administrative and supervisory phases of these problems. In this way the whole project is participated in to the fullest extent by the faculty.

By the end of the first semester an activities program had been launched and developed to a most satisfactory stage. In October appeared the first issue of a weekly school paper; in December an

excellent handbook was published; a home-room organization took form in the early autumn; a very satisfactory system of pupil participation in school control was well under way; practically all the assemblies were in the hands of the pupils; in co-operation with a local bank a strong thrift program was being developed; and, finally, a club program was meeting with success, forty-one clubs being in operation. Enough has been said to show the reader that real progress was being made in organizing on a sound basis a pupil program of a substantial nature.

In planning the program, the principal saw that it was important, first, to interest the faculty in the plan and, second, to explain the plan to the parent-teacher association and educate the parents along with the faculty. This done, he was ready to begin work with the pupils. Finally, in laying his plans and arranging the program, he so managed that every teacher was able to work out the particular thing in which she was most interested.

DEMOCRATIC VOCATIONAL EDUCATION

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In commenting on certain statements made by Secretary of Labor James J. Davis, the editor of the *School Review* says: "The most democratic school is one which unites all courses in a well-balanced program, not one which substitutes vocational courses for cultural courses."¹

Since the writer has repeatedly expressed in print his conviction that public high schools should largely, if not entirely, confine their efforts to general education, that is, all forms of non-vocational education, it may not be inappropriate to suggest that he finds nothing seriously in conflict with democratic ideals of education in either his own position or in that of Secretary Davis—nor, if concrete cases are analyzed, in that of the editor of the *School Review* as expressed in the editorial in question.

The writer agrees with the editor that "there is no possibility of a revision of the educational program such that there will be a real curtailment of cultural education." He hopes and believes also that to a steadily increasing extent "the ordinary man desires for his child a broad education, not a narrow vocational education which limits the pupil's cultural opportunities." He trusts, however, that the Federal Board for Vocational Education has *not* yielded to any pressures "to include in its programs more and more cultural material." If the officers of that board have done so, they have certainly not lived up to the spirit and intent of the statute under which they are operating.

Secretary Davis seems to imply in the paragraphs quoted that heretofore "educations" (May that not be a more expressive term than education?) have been more democratically accessible for those of our citizens who could enter the professions than for those "who work for a living" (with their hands, surely he means).

¹ "What Is Democratic Education?" *School Review*, XXXVI (March, 1928), 167.

Is not Secretary Davis correct? Let us assume Tom, Dick, and Harry to have been at any time during the past half-century the sons of prosperous American parents. Let us assume also that Tom, Dick, and Harry belong to that fortunate minority who have gray matter enough to make good marks in upper-grade and high-school work. For them several highly valuable free or partly free "educations" have been abundantly available—first in elementary schools, then in public high schools or quasi-public academies, next in public or endowed liberal colleges, and, finally, toward the crowning glory of American leadership, in a score or more of kinds of excellent public or liberally endowed higher vocational (that is, professional) schools, ranging from West Point, some four score medical colleges, and twice as many engineering colleges to a great variety and number of higher institutions training more or less directly and fully (often with but slight fees from learners) for leadership vocations in agriculture, teaching, business, navigation, music, and other fields seeking technically equipped specialists of a high order. For most of these favored ones preparation for their vocations rests on no uncertain foundations of vaguely defined apprenticeship or the hazardous processes of "pick-up" self-education. Fortunate is the lot of the "gold-spoon" type of young American!

Take another and far more numerous set of Toms, Dicks, and Harrys—those whose parents are not of the prosperous classes and who are further handicapped by having only average or less than average able-mindedness as revealed by school marks. For these of the "wooden-spoon" type, elementary schools are as good and as accessible as they are for the "gold-spoon" type. The cultural education of high schools is no less free to them, even though its mediums—algebra, ancient history, classical English selections, foreign languages, chemistry—may be somewhat remote from their optimum cultural potentialities. In our hundreds of denominational, state, and other liberal colleges or departments of arts and sciences at least a few of the most persistent of these "ordinary" persons may share in one or two years of "higher education."

Thus far American society exercises few discriminations of educational opportunity against the less fortunate "wooden-spoon" type. It is in the next stage that Secretary Davis' "undemocratic

discriminations" begin, that is, in those fields of education where young men and women are or might be adjusted purposefully, definitively, and effectively for one or another variety of life-work.

Where in the United States are to be found vocational schools for boys of modal abilities and circumstances comparable to the eighty splendid medical vocational schools which prepare nature's aristocrats for well-remunerated service in the attractive field of the medical vocations?

Where are to be found vocational schools which, taking girls of less than average natural ability, prepare them as purposefully for the manual vocations that they must follow as do teacher-training institutions the quite superior personnel which can reach their justifiably choice standards?

Of course, no educator devoted to the ideals of a splendidly democratic system of schools would abate in the least the approval and support which America now gives to its superbly supported and highly democratic system of higher vocational schools. Dare we shut our eyes, however, to the fact that they are schools for the elect only? Can we afford to ignore the fact that for millions of youths of less than superior abilities no correspondingly democratic opportunities exist for induction at public charge into one or another form of superior vocational competency?

Meager as are yet the achievements of Massachusetts, Wisconsin, New York, and several other states which pioneered in the development of at least a few opportunities for specific vocational training for the rank and file toward everyday shop and farm vocations and meager as are yet the achievements of any state system of vocational training operating under the stimulation of the Smith-Hughes Law, these beginnings represent a movement toward the further democratization of American public education comparable to that other great movement throughout the first three-quarters of the nineteenth century which gave this country its unequaled system of public high schools of general education.

The writer is, however, strongly of the opinion that a variety of practices permitted by law or supported by custom in the administration of industrial and agricultural classes of vocational curriculums are so wrong that they will probably tend to retard for a

considerable period the evolution beyond present beginnings of a truly democratic system of vocational schools for the "ordinary people" of the United States.

The first of these is the practice, authorized not only by state legislation but even by the Smith-Hughes Law itself, of permitting children fourteen years of age to enter upon so-called "full-time" vocational training. Under present-day American social conditions it should be thought just as senseless to permit children fourteen years of age to begin specific training for any trade or farm vocation as to permit young people sixteen years of age to begin vocational preparation for medicine or electrical engineering.

The second wrong tendency is that of attempting to offer vocational curriculums (commonly misnamed "courses") in ordinary high schools. In any urban eighth grade today there may be among the boys one potential dentist, one potential automobile repairman, one potential greengrocer, one potential pharmacist, one potential street-car conductor, and one future representative of each of a score of other vocations.

No intelligent person proposes that in each school there should be a department of medical education. Why, any more, should there be a department of job printing? Except in backward communities the function of training elementary-school teachers has been taken away from the high school. Why should high schools now be urged to assume the functions of training carpenters, dairy farmers, and shoe clerks, which they are by nature even less fitted to discharge?

There are approximately one thousand high schools in the state of Ohio. That state certainly needs vocational schools to train automobile mechanics as much as it needs schools to train electrical engineers—but how many? Probably twelve, properly located, would suffice.

A third vicious current tendency is to trust to all sorts of "patch-work" schools for unaristocratic vocational training—continuation schools, part-time classes, extension courses, correspondence courses, apprentice classes, and other sorts of *Ersatz* makeshifts. None of these are intrinsically bad, of course, and for all of them it can be claimed that "they are better than nothing." How little would we

expect, however, from the fragmentary, poorly oriented offerings, made often to wearied and dulled minds, which might be made by similar schools of dentistry, surgery, civil engineering, army leadership, or architecture? We all know that too often prospective theologians, teachers, and lawyers are themselves the victims of such piecemeal training.

Some day America will have a truly efficient and a truly democratic system of vocational schools for all classes. Just as there are now more than a *score* of *kinds* of higher vocational (professional) schools, so under that system there will be *hundreds* of *kinds* of industrial schools, *scores* of *kinds* of farming schools, and perhaps *hundreds* of *kinds* of commercial schools.

As is now the case with vocational schools for the élite, these new vocational schools will be provided at the rate of from one to a dozen for each state, thus necessitating residence away from the students' homes. For some vocations perhaps one or two schools for the nation will suffice, as is now the case in training for watch-repairing and for naval leadership.

That democratic and efficient system of vocational schools will offer no more relatively of cultural or other non-vocational courses than is now offered by good schools of seamanship, optometry, veterinary surgery, or dentistry. Students will be expected to have completed as much of cultural and other forms of general education as they can or will take on before specializing for some one of the more than three thousand vocations now followed by the workers of America.

Under that system the thousands of high schools located everywhere, accessible to the homes of their pupils, will confine themselves to the offering of rich and fruitful *general*—cultural, civic, health-conserving, moral, and other—educations, that is, they will if they can keep up with the times pedagogically. If they cannot, they will fall back on the defeatist practices of the many weak "liberal" colleges of today and fill their curriculums with alleged "pre" courses—pre-carpentry, pre-stenography, and pre-technical—just as junior colleges submit to the mercenary lures of pre-medical, pre-journalistic, and other pre-professional courses.

The vocational schools referred to will not, however, be open

to "kids" and "flappers." Maturity, economic motivation, and determination to buckle down will be demanded, as they are now in the case of all good higher vocational schools. Given such maturity, such physical and mental preparedness, and the prospect of high economic competency, the problems of establishing a nation-wide, efficient, and highly democratic system of vocational schools should not prove difficult even though it is opposed by academic school men.

Would the comprehensive system of vocational schools here proposed prove expensive? In a fundamental "eudemic" sense, not one-tenth as expensive as the present anarchistic apprenticeship and pick-up systems of non-public vocational education. Even in terms of present conceptions of potentialities of public taxation the proposed schools need not prove excessively costly—certainly not so costly as the present high schools which they should supplement. From twelve to thirty weeks of full-time (eight hours a day) training would suffice for the great majority of industrial vocations if students were properly mature and motivated. It is a safe estimate that \$100,000,000 a year would provide *good* vocational training for that million of American men and women from seventeen to twenty years of age (about one-half the total of all those at this age level) who annually recruit those manual working vocations which have no semblance of apprenticeship. Is that too high a price to pay for the thoroughgoing democratization of American education which would result?

SHAKING OFF THE SHACKLES OF GRADE PLACEMENT¹

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The organization of high-school pupils into year and half-year grades is primarily an administrative device to insure the most efficient distribution of the time of a few teachers among a large number of pupils. So practical is the scheme that there is scarcely an exception to it in the high schools in the United States. Moreover, the unit character of most high-school subjects readily adjusts itself to a plan of yearly grades. Like all other systems of classification, the three- or four-year grade scheme has the virtue of ease and facility and the defect of rigidity.

An excellent example of the efficiency of grade organization is found in the department of mathematics. The first-year pupil usually takes algebra, a unit course covered and completed in a year. He then proceeds to geometry, a second unit course completed in a year. If he desires further work in this department, he may take solid geometry, trigonometry, or intermediate algebra, each a unit course completed in a year or a half-year. While there is a traditional sequence of algebra, geometry, and trigonometry, there is no fundamental reason why the order cannot be completely reversed.

The teaching of English, however, presents an entirely different problem. The course in English is, or should be, cumulative, not sequential. There are fundamental and basic reasons why the course of study of the first year should precede that of the third year, and a properly organized Senior course should rest on the foundation laid by the first three years. The aims of the course in English are twofold: (1) to provide an efficient tool for expression and communication and (2) to widen the pupil's experience with life and with the world through the reading of selected literature.² It is obvious

¹ The plan of reorganization here described is being tried in the high school of the Colorado State Teachers College.

² *Reorganization of English in Secondary Schools*, pp. 30-32. Bureau of Education Bulletin No. 2, 1917.

that the first aim is prerequisite to the second, for without the use of language as a tool reading becomes labor and the desired result of vicarious experience is reduced to a negligible amount. The course of study should therefore give greater weight to the first aim in the earlier years, gradually reducing the emphasis as the pupil becomes more efficient in the use of language.

If English is a cumulative subject, with a constantly shifting emphasis from a contributory aim to an ultimate aim, why is a pupil forced to follow a rigid sequential course of study when he can prove himself fitted to work at a much higher level? Or the converse, why is he promoted to the highest class when his knowledge of the use of English is at a level far below that of the class in which he is trying to work? Stated positively, the point is this: the three- or four-year plan of organization with an orderly sequential progression is too rigid a mold into which to force English, the values of which lie in the accumulation of specific achievements. A plan of organization better fitted to the needs of the individual pupil is needed.

Two examples will serve to illustrate this need. A high-school pupil who recently entered the Sophomore class displayed within a week language ability at least equivalent to the average of the Senior year. She came from a home where only the best English was used; this fact was evident not only in her accuracy but also in a nascent feeling for form and style. This girl should have been working at the Senior level, but, owing to the sequential organization, she was forced to remain in the Sophomore class and carry on individual work or else be bored by drills and recitations for which she had no need.

On the other hand, another pupil failed so completely in the work of the third year that he was refused admission to the fourth year. Instead, he was persuaded to repeat Sophomore English without credit, thereby delaying his graduation at least a half-year. Was the fault his or the school's? The writer is inclined to ascribe the fault to the school, for the boy's attitude toward his work and his desire for improvement were excellent.

It remains to offer a solution to the problem. The plan suggested is based on the three-year high school, although it is equally appli-

cable to the four-year organization. Instead of the customary Sophomore, Junior, and Senior English, three distinct and unique courses, adjusted to meet the needs of three levels of achievement, may be offered. These courses might be named (1) general English, (2) English and American literature, and (3) creative expression. On entering the Sophomore year, every pupil should be given a battery of English tests, including one in grammatical forms, one in composition, and one in achievement based on the work of the junior high school. The use of standardized tests will furnish norms to determine which pupils may be exempted from the course in general English. Those who are required to take general English may promote themselves from it at any time during the year by making the required scores on the various tests as they are offered from time to time. In like manner, pupils enrolled in Courses 2 and 3 who develop difficulties in language usage may be returned to general English for special drill and practice.

The content of the course in general English should not be very different from the content of the customary Sophomore English course. There should be at least fifteen weeks of grammar and composition, including a systematic review of grammar, drill on sentence construction, and practice in paragraphing. At least eight weeks should be devoted to oral English, including oral reading, brief speeches, the conduct of a public meeting, and dramatization. Not less than ten weeks should be given to the reading of standard classics, particularly those dealing with the unfolding of character, such as *Silas Marner* and *A Tale of Two Cities*. The length of these allotments and the addition of other materials depend on local conditions. The pupil who fails to meet the promotion standards at the end of the course should be required to repeat it with credit provided his effort and attitude have been satisfactory, preferably in a new section and with a new reading list.

The second course, English and American literature, has the specific aim of enlarging the pupil's experience with life through a wide range of reading. The work in composition should be not mere reproduction but original expression growing in power and vitality through practice in writing and from experience with literary types.

The outline of English and American literature may be arranged to fit into a single year, or, perhaps better, it may be offered in alternate years. The choice of chronological order or type groupings would also depend on local needs. The important thing is to use every device which encourages a great deal of voluntary reading, with programs of readings, reports, and dramatizations to bring before the class what individuals have read. When the pupil completes this course, he may elect to repeat it with a new reading list (English and American literature offered in alternate years perhaps), or he may elect Course 3, creative expression.

The aim of Course 3 is to provide a less formal class for those pupils who like to write. The assignments should be in the form of projects to meet individual needs, allowing a wide range of selection. One pupil may desire to experiment in poetry, another in the short story, and a third in advertising copy. Debate and oratory as forms of original expression should be stressed. The class is really a laboratory in English creation, individual to the extent of the choice of work but social in providing a critical audience for the work produced. The general outline of the group work should include a more detailed study of literary types and an introduction to modern criticism through standard magazines. Each pupil must elect a minimum list of readings for each quarter or semester, prepared with the guidance of the teacher and selected to encourage his particular interests. While, in general, this course should follow the course in English and American literature, there is no real reason why an exceptional Sophomore should not be permitted to enter it. Enrolment in the course rests entirely on ability, not on grade placement.

Many teachers and administrators, sympathetic toward some such plan, are at first appalled by the administrative difficulties involved. It is true that a school having but one teacher of English would be at a disadvantage in attempting this reorganization, but any school with two or more English teachers is adequately staffed to undertake it. Let it be assumed that under the traditional organization Sophomore English comes at nine o'clock, Junior English at ten, and Senior English at one and that two teachers have

sections scheduled at each of these hours. Table I shows how the reorganization may be undertaken without disturbing the high-school program.

The few pupils who have conflicts with other school subjects, as, for example, a Junior qualified to take creative expression at one o'clock, present no greater difficulty than do the irregular pupils now found in any high school and can be cared for through administrative adjustments. There is no real administrative problem in a school offering two or more sections each hour that English is scheduled.

A final objection is one regarding credits. Can two units of English be given to a pupil who is required to repeat Course 1, general

TABLE I

Hour	Traditional Organization	New Organization
9:00.....	Sophomore English A Sophomore English B	Sophomore general English Sophomore English and American Literature
10:00.....	Junior English A Junior English B	Junior general English Junior English and American Literature
11:00.....	Senior English A Senior English B	Senior English and American Literature Senior creative expression

English? The answer is affirmative provided the pupil's attitude is earnest and sincere and he follows a new reading list. There should be a clear distinction between the pupil who fails because of negligence or unwillingness to work and the sincere pupil as yet unequipped to advance to more difficult work. The aim of the English course should be quality rather than quantity. A reference to the parable of the talents is apt. Let us say, "Well done, good and faithful servant," wherever such praise is merited by the attitude and effort of the pupil even though his actual accomplishment is small. We must indeed punish sloth and indifference but reward the fruits of labor, no matter how meager, if they justly represent the ability of the pupil. By so doing, we relieve the irksome misplacements of the grade organization and assemble the unequipped and less gifted into groups where congeniality changes shame to confidence.

PLAN FOR THE STUDY OF THE UNSUPERVISED READING OF HIGH-SCHOOL PUPILS

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The reading activity of high-school pupils may conveniently be divided into two classes. In one class is the reading which is carried on under the supervision and the guidance of the instructor. This may be done in part or in whole in the classroom. Usually it involves a certain amount of reading outside of school of books chosen from lists approved by the instructor. That the supervision may be more complete, book reports are generally required as evidence of the pupils' accomplishment of the task and of their reactions to the assigned reading. The other class contains whatever reading the pupils carry on of their own volition and for their own pleasure, unhampered by any demands or restrictions made by the teacher. The teacher interested in watching the growth of tastes and appreciation among his pupils cannot neglect this side of their reading activity. We may safely assume that the primary purpose of the teaching of literature in the high school is the development of a wholesome interest in literature. We must then look beyond the regular monthly book report for the true record of our success. Not many schools, however, have developed an adequate technique for studying the unsupervised reading of their pupils.

The school is not the only institution that exercises some influence on the literary tastes of the pupils. The home, the public library, the numerous neighborhood circulating libraries, and even the corner drug store selling the gaudy monthly magazines contribute as much to the reading selections of pupils as does the school. To what extent do the standards of good literature taught in the school influence the choices of reading material which are made in these other places? The formal book report, commonly demanded, does not answer the question. The pupil, conscious of the compulsory nature of the task, is frequently led to say what he thinks

he is expected to say. His reports, too, are limited to those books which have been approved in advance by the instructor. There is little chance, then, to learn from these book reports his actual attitude toward literature.

Feeling that a knowledge of the unsupervised reading of the pupils is fully as important as a knowledge of classroom or assigned reading, the teachers in the English department of the University High School of the University of Chicago have for a number of years been working on a plan intended to enable them to observe the voluntary reading of every pupil in the school. The use of the plan has progressed far enough to permit a few observations.

In every English class the pupils are asked to keep two records of their reading. They are asked to record on white cards provided them the reading done in class or completed as part of a class assignment. On buff cards of the same size they record their leisure reading. Care is taken to emphasize the fact that this is only such reading as they do for their own pleasure. It may be of any character they choose—scientific books, history, art criticism, literature, or merely light fiction. The only request is that they do not record on this card reading required for English or any other course.

Each pupil is given an instruction sheet illustrating the manner in which the records should be kept.

From the reading recorded on the white cards the pupils derive the materials for their written and oral reports to the class. The instructors keep files on their desks where these cards and the buff cards are deposited. The pupils are not asked to make any notations whatever on the buff cards. They are not in any sense book reports. Care is taken to stress the point that the keeping of this free-reading record is a voluntary act. Exhaustive records are neither required nor expected. Representative lists only are desired. Every pupil is made to feel free to record any title no matter how doubtful he may be as to its chances for approval. No credit of any kind is given for the keeping of the record, and no penalty is attached to failure to record the titles of all books read or to the recording of books inferior in quality.

At the end of each English course, the reading records are filed in the English office. The voluntary record is transcribed to a large

master sheet, which contains the cumulative voluntary-reading record of the pupil for such period as he has been in the school. This master sheet is folded once so that it makes four pages. On the first page are the pupil's name and a space for recording any remarks which the teachers think are valuable in the study of the record. The other pages are devoted to the record of books read. The space on these pages is divided into columns having the following headings in the order named:

Parallel course and classification

Author

Title

Novel

Juvenile

Adult

Short story

Non-fiction

Biography

Essay

Social science

Arts

Science

Poetry

Drama

Magazines and newspapers

The entries in the column headed "Parallel Course and Classification" show at a glance the English course and the level of the pupil at the time any given book was read. The teacher checks in the appropriate column after each title to indicate the type of book read. A check in black ink indicates that in the opinion of the instructor the book is of superior quality; a check in red ink indicates that the book is inferior. Of course, any kind of qualitative checking must be subjective. Even teachers will not always agree on the quality of a given book. In the long run, however, the checking provides a comprehensive and graphic account of the quantity, range of interest, and quality of the leisure reading of any pupil throughout his high-school career. As the master sheet indicates the course paralleling any part of the pupil's reading, it is sometimes possible to infer the actual influence of that course on his reading. This statement is not to be interpreted too literally, however. It is

not likely that during a course which involves the study of long narrative poems pupils will begin to read long narrative poems regularly in their leisure time. On the other hand, an introduction to drama in the classroom often leads to the reading of dramas during leisure hours.

Before some of the advantages and possibilities of the record are described, some questions certain to be raised about the plan may be answered. It may be asked how we can be certain with no more than a quantitative list kept by the pupil that we have an honest record.

Such a question seems to imply that high-school pupils are by nature dishonest. The implication is unjust. They are dishonest only when a certain type of coercion is used to make them lay claim to certain tastes which they do not possess. If there is no reason to be dishonest, they will not be. In schools where pupils are "made to like" literature and where their chances of passing depend on a liking or a pretended liking for books approved by the instructor, it is almost certain that there will be much pretense. If, on the other hand, teachers exhibit a spirit of genuine sympathy and interest in any and all the reading which the pupils do, if no prize is given for keeping a long reading list, if no list of approved titles is constantly thrust upon the pupils from which they are expected to choose their free reading, they will express themselves freely and honestly. Only upon such expression can a sound taste and a genuine appreciation for literature be built. Teachers must remember that the change from a comparatively low level of appreciation to a higher level is accomplished only gradually and with sympathetic guidance. This does not imply the condoning of inferior literature; it does mean that the teacher must accept a pupil's interest in much cheap literature, for it is the point of departure toward more discriminating taste. In the classroom the teacher finds time to talk occasionally with his pupils about their leisure reading. If he makes the discussion center about points of mutual interest instead of seeming to be inquisitive in order to check up the pupil's knowledge of the books recorded, he will gain the information he wants, and he will not set up inhibitions in the pupil. Many lively discussions about a book's merits may be started in this way. The records in-

dicating that the pupils are for the most part thoroughly honest in recording their reading. There seems to be no effort to pad the records; rather there is a tendency to report less than is actually read. This is especially true in the third and fourth years. If the record is representative, however, it is felt that the most important evidence has been secured. A hasty glance at the records will prove that there is little effort made to eliminate titles of inferior quality. Novels by Rex Beach, James Oliver Curwood, Zane Grey, Temple Bailey, Harold Bell Wright, and others, on which English teachers have regularly frowned and which they have forbidden in their outside-reading lists, appear in the records with a frequency that is sufficient to indicate that the records are honest.

It may be argued that the keeping of such a record does nothing to aid the pupil in establishing a critical attitude toward his reading. Each pupil might be asked to make a short annotation for each book read in which he stated his opinion of the book. This, of course, would amount to virtual supervision. Reports would soon be made on only such books as the pupil thought the teachers approved. The writer needs no better index to a pupil's tastes and reactions than the actual record of the titles of ten books written by a minor author which a Junior boy set down on his card. On the other hand, the appearance of novels by Willa Cather, Dorothy Canfield, Thackeray, and Victor Hugo in the reading list kept by a Junior girl is a pretty safe guide to her taste, especially since it reflects the same standards of tastes which she showed in class. As for training in critical expression, the classroom provides, or should provide, ample opportunity for both oral and written activity.

The values of the voluntary-reading records to the teacher are many. They are of immediate value to the teacher in studying the personnel of his class. By way of illustration, the voluntary-reading record of a Junior boy during the period that he was enrolled in the English classics course may be reproduced as follows:

VOLUNTARY READING OF A JUNIOR BOY DURING THE FIRST
FOUR MONTHS OF THE SCHOOL YEAR 1927-28

- Oct. 15—Burtis, *Russ Farrell, Test Pilot*—Novel
Oct. 18—Burtis, *Russ Farrell, Circus Flyer*—Novel
Oct. 21—Bishop, *Flying Squad*—Novel

- Oct. 23—Theiss, *Piloting the U.S. Air Mail*—Non-fiction
 Oct. 28—Hall, *High Adventure*—Essay
 Oct. 30—Driggs, *Arnold Adair, American Ace*—Novel
 Oct. 30—Lindbergh, *We*—Autobiography
 Nov. 5—Saunders, *Wings*—Novel
 Nov. 10—Gibbons, *The Red Knight of Germany*—Biography
 Nov. 15—Mitchell, *Winged Defense*—Non-fiction
 Nov. 17—Collins, *Aircraft of Today*—Non-fiction
 Jan. 4—Pagé, *A. B. C. of Aviation*—Non-fiction
 Jan. 5—Smith, *Romance of Aircraft*—Non-fiction
 Jan. 6—Abbott, *Aircraft and Submarines*—Non-fiction
 Jan. 7—Fraser, *Heroes of the Air*—Biography
 Feb. 8—Moroso, *The Listening Man*—Novel
 Feb. 10—Bromfield, *A Good Woman*—Novel
 Feb. 12—Vance, *The Dead Ride Hard*—Novel
 Feb. 15—Horn and Lewis, *Trader Horn*—Biography
 Feb. 17—Cather, *Death Comes for the Archbishop*—Novel
 Feb. 20—Stowe, *Uncle Tom's Cabin*—Novel

The reading which the same boy completed in class or in fulfillment of assignments of the course is presented as follows for comparison:

CLASSROOM READING OF A JUNIOR BOY DURING THE FIRST FOUR
MONTHS OF THE SCHOOL YEAR 1927-28

- Oct. 30—Shakespeare, *Macbeth*
 Nov. 3—Anonymous, *Tales of Old Times*
 Nov. 3—Synge, *Social Life in England*
 Nov. 20—Shakespeare, *As You Like It*
 Nov. 21—Shakespeare, *Twelfth Night*
 Nov. 29—Shakespeare, *Merchant of Venice*
 Dec. 13—Shakespeare, *Julius Caesar*
 Jan. 5—Shakespeare, *Taming of the Shrew*
 Jan. 8—Molière, *Doctor in Spite of Himself*
 Jan. 12—Shaw, *You Never Can Tell*
 Jan. 25—Wilde, *Lady Windermere's Fan*
 Feb. 15—Tennyson, *The Idylls of the King*

The record of the boy's voluntary reading reveals at once the limited range of his interests. From October to January every book that he read concerned aviation. There is a wholesome mixture of fiction and non-fiction. Lindbergh's autobiography and the volume of delightful essays of James Norman Hall, *High Adventure*, appear

side by side with the juvenile tales about Russ Farrell, now supplanting the Tom Swift series in the interest of juvenile readers. On the whole, however, there is no evidence of discrimination. The hunger for books on aviation is the guiding principle in selection. In February, there is an interesting change. Not one book recorded concerns aviation. Adult fiction and one of the best volumes of non-fiction recently published appear. The record of the reading in class does not show any transfer of interest from classroom to voluntary activity. The period covered by the record was devoted to the study of drama and narrative poetry. The class activity may have stimulated an interest in more mature ideas, which in turn led to interest in the books recorded. At any rate, it is evident that the boy's taste was changing rapidly. By observing all pupils in this manner, the teachers are aware of their increasing literary experience.

The records are also of value to the instructors when they are interviewed by parents. The attitudes of parents toward the reading done by their children vary widely. Some parents show no concern whatever; some show wisdom and understanding in the guidance of children's reading; and some are overzealous and try to force an interest that is unnatural and therefore unwholesome. The third type of parent is afraid that his child is not reading enough or that he is not reading the "right things." Usually such parents are ambiguous when they are questioned as to what they consider the right things for their boys and girls to read. Many of them have high regard for the "classics" and feel that their children should be required to read them. Altogether, they reveal a surprising lack of knowledge of both how much and what their sons and daughters actually read. The voluntary record is frequently illuminating even to the parents.

The gradual maturing of the pupils physically during their four years in high school is obvious. Departments of physical education are now recording the progress of physical maturity so that an objective record of a pupil's growth is available at the close of his school career. The maturing of taste during these four years of high school when the pupil changes from juvenile intellectual and emotional interests to adult interests is just as inevitable as the maturing of his physique. The classroom activity provides one measure

of the pupil's growth in taste, but the ultimate measure of taste, of aesthetic development, is found in the quality of the art forms that appeal to him. All art is intended for enjoyment. The kind of art which he seeks when enjoyment is his only motive is the measure of his taste. It is imperative, then, that the unsupervised literary interests of pupils be followed up. As the records cumulate, the extent to which interests expand can be seen. Many limitations in the aesthetic interests of some pupils can be observed; in others is seen the birth of love for great drama, or poetry, that grows with each succeeding year. Fluctuations and falling-off are noted in the pupils' love for reading. All these items and more become a part of the teacher's knowledge of his pupils.

Furthermore, the records provide materials with which the school may build for the future. Curriculum reorganization in literature is challenging the interests of teachers everywhere, but it is a more difficult problem than curriculum-planning in most subjects. To organize the curriculum of the English department properly, it will be necessary to study the natural unfolding of pupils' interests and to take into account the emotional maturity of children as well as their intellectual maturity. As the records grow and as they are intelligently studied, information is accumulating which is invaluable in adjusting the curriculum to meet the needs and the interests of the pupils. If the voluntary-reading records afforded no other values, they would still be justified because they provide material that is needed in making changes in the course of study.

ONE SUBJECT AT A TIME

WILLIS THOMSON*

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In February, 1926, a group of twenty-five second-semester ninth-grade boys in the Woodstock Community High School, Woodstock, Illinois, was organized into a special class. This class was not at all homogeneous in scholastic ability, in intelligence, or in classroom behavior, but physically and athletically it was a fairly homogeneous group. Instead of studying each day algebra, English, medieval history, and botany, these boys studied algebra the entire school day for five weeks, then English for the same period, then medieval history, and, finally, botany. One teacher taught this group algebra and botany and taught the classes of a history teacher while that teacher taught the one-subject group English and medieval history.

Before the experiment was begun, the two teachers, the principal, and the superintendent had several conferences, and general plans were made. It was thought that the work in English would be varied enough so that the pupils would not tire of the five hours of work each day on one subject. In the case of algebra it seemed inevitable that the pupils would become greatly fatigued working all day on a subject as little varied as that subject is.

The amount of material and the number of textbook pages in algebra covered during the two preceding years were ascertained, and a definite amount of material based on what had been done before was decided upon as the maximum amount to be covered by this group. An outline of the work with page notations was prepared in advance, and each boy was given a copy of the outline. The class was told that this was all the work that would be done in algebra and that as soon as anyone completed it satisfactorily he would be through with the subject; if he finished it before the end of the five weeks, the remainder of the time would be his own.

* The writer wishes to acknowledge the assistance of Miss Catherine Austin, Miss S. Margaret Beatty, and Mrs. H. G. Abraham in making the study here reported.

The class worked industriously at the start. It was soon apparent that three boys needed constant prodding, but the others worked steadily without the teacher having to apply any artificial incentives other than the prospect of having as a vacation whatever time remained of the five-week period after the prescribed amount of work was accomplished.

The teacher did no grouping within the class, but the members soon arranged themselves into four groups. The boys in each group worked together and kept abreast of one another. This grouping persisted almost unchanged throughout the other three courses. It is interesting to note that this grouping, which was done entirely by the boys themselves, corresponded with but four exceptions to the exact grouping that would have been made if it had been based on ratings prepared by combining intelligence quotients and teachers' marks in the subjects studied the first semester.

Contrary to expectations, the boys did not tire of working five hours a day on algebra. The day commenced at 8:45 A.M., and the morning session closed at 11:53. The afternoon session began at 1:20 P.M., and school was dismissed at 3:23. Sometimes during the morning the boys were given a five-minute recess, and any boy could leave the room at any time. In the afternoon the boys had another five-minute recess. Once a week the boys were given an hour of supervised free play in the gymnasium or on the playground. Home work was assigned infrequently to the entire class. It was often assigned to individuals and to groups.

In order to check the results of the experiment, a control group was established, but, as the school had less than three hundred and fifty pupils, it was not possible to have a matched group. Table I presents general data concerning the two groups. When the algebra tests were given, both groups were greatly diminished in size. An epidemic of measles had caused a number of pupils to drop algebra; all pupils who failed in second-semester algebra were excluded; and some were absent during the period when the tests were given. Therefore, no significant results were obtained by having a control group.

In order to compare the achievement of the two groups in algebra, the Hotz Algebra Scales were used. The results obtained do not,

however, warrant the drawing of any conclusions. When the tests were given, the groups were unmatched and too small; all the pupils were not in the same year in school; and too much time had elapsed between the completion of the course in algebra and the giving of the tests. The scores on the tests did not show a difference great enough to indicate which method is the more effective in teaching algebra. The median total score was 25.0 for the one-subject

TABLE I
DATA CONCERNING THE ONE-SUBJECT GROUP AND THE CONTROL GROUP

Item	One-Subject Group	Control Group	Boys in Control Group
Number composing final group from which data have been collected	11	16	7
Sex:			
Number of boys	11	7	7
Number of girls		9	
Distribution of pupils:			
Number of second-semester Freshmen	11	4	4
Number of second-semester Sophomores		6	1
Number of second-semester Juniors		6	2
Range in I.Q.'s*	77-140	92-124	96-124
Median I.Q.*	116	108	113
Mean I.Q.*	114	108	112
Number of honor points gained per school year during first two years of high school:†			
Median	7.50	10.13	9.00
Mean	7.59	9.97	8.29
Mean number of honor points gained in algebra:			
First semester	1.00‡	1.44‡	1.14‡
Second semester	1.46	1.19‡	1.00‡

* The Otis Self-Administering Test of Mental Ability was used.

† The system of marking used in the school was as follows: A credit with two honor points roughly equals a mark in the 90-100 range. A credit with one honor point is in the 80-89 range. A credit without an honor point is in the 75-79 range. No credit corresponds to a mark of less than 75 and is a failure.

‡ All the pupils represented by the mean numbers of honor points marked with a double dagger (‡) studied algebra under the same teacher.

group and 28.4 for the control group. In other words, the median pupil in the control group worked about one more exercise on each scale than did the median pupil in the one-subject group. The intelligence quotients of the pupils indicate that the one-subject group should have made the higher scores, while the scholarship records indicate that the other group should have made the higher scores. It is therefore not safe to draw any conclusions from the scores made on the algebra scales.

Before the first week of the term was completed, the teacher had recognized the loafers in the class. When a teacher has one group of pupils all day, it is not difficult to discover the shirkers. It is also not difficult to make them work along with the other pupils. Thus, it is likely that each pupil works nearer the level of his ability under this plan than he does under the system in which pupils are directed by a different teacher every forty-five or sixty minutes.

Another factor to be noted is the homogeneous grouping that was permitted by the one-subject plan. Although the experimental group was far from homogeneous in intelligence or scholastic ability (the range in I.Q.'s being from 77 to 140 and the range in the number of honor points gained per year being from 0.0 to 13.5), the division of the class into four groups made each group remarkably homogeneous.

Seven of the pupils completed all the work in algebra in four weeks. It was impossible to find out accurately how much time these pupils spent on algebra outside of school. Several more achieved a four-day vacation; half the pupils had three days or more; and all but two pupils had at least one day of vacation. The setting of a definite goal stimulated most of the boys to work diligently.

Goals were set in English and in medieval history, but most of the work in these two subjects was handled by a substitute teacher, and no substitute could have hoped to reach these goals. No definite amount of work was planned for botany. All the pupils therefore attended class the full five-week period when they were studying the last three subjects.

When the experiment was begun, it was proposed to make extensive studies of the achievements in history and English. Unfortunately, there was an epidemic of measles, and the percentage of pupils absent was very high. The teacher of the one-subject group was quarantined during a large part of the periods devoted to medieval history and English, and the substitute teacher was a normal-school graduate without previous high-school experience. On this account it was not thought desirable to compare the work of the two groups in these subjects. The substitute teacher was able, without previous high-school experience, to do good work under this

plan of instruction, but she said that it was by far the hardest work she had ever done.

No tests or scales were found that seemed adequate for making a comparison of the achievements in botany. The one-subject plan offered a better opportunity for field work, and the notebooks of this group seemed to be more complete, but no objective rating was used in judging them.

TABLE II

SUMMARY OF REPLIES TO QUESTIONNAIRE GIVEN TO PUPILS IN THE ONE-SUBJECT GROUP

Question	One Subject All Day	Four Subjects Each Day
1. I received more benefit from my studies when studying four subjects each day one subject all day. (Cross out words which do not apply)	18	2
2. I enjoyed my studies more when studying four subjects each day one subject all day	19	1
3. I enjoyed school more when studying four subjects each day one subject all day	18	1
4. I was more tired at the end of the day when studying four subjects each day one subject all day	7	12
5. If given my choice next year, I would choose to study four subjects each day one subject all day	19	*

* One boy wrote that he did not know which plan he preferred for the following year.

One day near the end of the semester the superintendent went into the classroom of the one-subject group and told the boys that he wanted certain questions answered on slips of paper which he would give to them. He said that they were not to sign their names to the papers and that they did not need to answer any of the questions they did not wish to answer but that it was very important that they give true answers to any questions they did answer. The slips were passed to the pupils face down, and no communication was permitted after they were turned up. Thus, no boy had his answers influenced by group pressure or example. Table II summarizes the replies to the questionnaire. The following statement appeared at the top of the questionnaire.

You are not to sign your name to this. As each question can be answered by a line drawn through the words "four subjects each day" or "one subject all day," your handwriting need not appear on this sheet, and there will be no way to tell who filled it out.

The fifth question is significant. A Freshman boy would know without mistake which plan he prefers for the following year, and he would state his preference truthfully. It is quite evident that the boys liked the plan. No questionnaire was given to the three teachers, and none needed to be given. Many times during the semester they said that the plan was very good for the boys but very hard for the teacher.

Under the one-subject plan the teacher had to be an executive. Before the school day began, she had to have well in mind what each pupil was to accomplish that day. It is commonly said that pupils can tell when the teachers have had a party together for they all give tests the next day. Under the one-subject plan "tests the next day" would not solve the difficulties resulting from lack of preparation, for one cannot give a five-hour test in one subject to high-school pupils. The teacher was bound to an extensive daily preparation that could not be slighted a single day. It was found advisable to write down every day what each pupil was to do the next day. To plan and to put in writing the activities of twenty-five pupils during the school day five times a week is no small task. This task was simplified whenever the project method was used, and it was used extensively. Perhaps a teacher would find after working a year or two with this plan that the work is no more difficult than teaching five different groups of pupils a day, but the experiment showed that the plan is at first very hard for the teacher.

Educational Writings

REVIEWS AND BOOK NOTES

A symposium by high-school pupils on clubs.—The development of a more sympathetic attitude toward the pupil on the part of the teacher and the administrator is one of the greatest of the many evolutionary changes in education during recent years. No longer does the school building consist of grim walls inclosing a frigid taskmaster with a worn and uninteresting book in one hand and a birch rod in the other. Rather, the school building houses a community of happy young people, engaged in various activities and directed in classroom, shop, laboratory, library, gymnasium, and club room by an understanding and sympathetic leader. The gradual development of school clubs has contributed much to the growth of this more sympathetic attitude.

From the co-operative efforts of an understanding teacher and her class in English composition has come a book¹ descriptive of the clubs in a modern high school and indicative of their value. The several chapters were written and edited by the pupils, the teacher giving only such aid as is usually offered "by the teacher to any class working on a project in composition"; therefore, they purport to express the pupils' attitudes toward the organizations described.

The book is written in six parts, with a foreword by the principal of the school. Part I consists of four brief, general chapters on pupil activities. The five remaining parts are entitled "Clubs for Boys," "Clubs for Girls," "Club Activities for Boys and Girls," "Activities for All the School," and "Departmental Clubs." The appendixes reproduce the constitutions of several clubs.

The point of view expressed in the chapters entitled "Faculty Sponsorship" and "Have We Student Government?" is especially commendable. Some club sponsors and administrators would debate the conclusion reached in the chapter entitled "Shall We Have an Activities Period?" The conclusion was reached, however, after consultation with teachers and pupils in the school. The section describing the activities of the Smoking Council is indeed interesting.

From every chapter comes the suggestion of mutual assistance and fine co-operation of teacher and pupil, and therein lies the chief merit of the book. Of value, also, are the brief description of the origin and gradual development

¹ *Our High School Clubs: A Study of Extracurricular Activities in the Oak Park and River Forest Township High School, Oak Park, Illinois.* New York: Macmillan Co., 1928. Pp. x+254.

of each club and the somewhat detailed description of its activities at the present time. The entire book is filled with suggestions for those responsible for the direction of high-school clubs.

ERIC OSCAR MAY

TOWNSHIP HIGH SCHOOL, ROBINSON, ILLINOIS

Readers for the junior high school.—A two-book series of readers¹ for the junior high school containing selections grouped under large divisions has made its appearance. The principle of grouping selections under common headings is valid, but consistency in point of view needs to be maintained. Such consistency is lacking in the present books. Some of the major headings refer to the nature of the selections and others to the content of the selections. Of the first type are such headings as "Incident and Adventure" (Book One) and "Telling Tales" (Book Two); of the second type are "Men and Work" (Book One) and "Conquests of Science" (Book Two). Repetition of theme also appears occasionally, as in the divisions "The Out-of-Doors" and "Nature's Ways and Moods," both of which are included in Book One. Mental difficulty is also likely to be caused at times by the subtitles under which selections are placed. It is confusing, for example, to find such diverse selections as "How They Brought the Good News from Ghent to Aix," "The Locomotive Engineer," "The Vagabond," "Incident of the French Camp," and "The Charge of the Light Brigade" all placed under the common heading "Sport and Sportsmen," but unfortunately such illogical grouping is found in many anthologies.

For the most part, the selections will interest and inform the reader. Excerpts are accompanied at times by paragraphs designed to clarify them—a commendable objective that would have been better served had the explanatory material been placed uniformly at the beginning of the selections instead of occasionally at the end. Pedagogical suggestions accompany most of the selections. Generous reading lists are given with the major divisions. Useful glossaries are provided in each book. The inclusion of pictorial material would have made the books more attractive and serviceable.

HOWARD C. HILL

Junior high school activities.—A discussion of the extra-curriculum activities in a well-known junior high school—the Washington Junior High School, of Rochester, New York—from both a theoretical and a practical standpoint appears in a recent book.²

Extra-curriculum activities are greatly stressed as the medium through which pupils may develop an intelligence with which to meet the problems of real life which are soon to become their civic and social responsibility. "Par-

¹ Melvin E. Haggerty, *Reading and Literature*: Book One, pp. viii+568, \$1.36; Book Two, pp. x+566, \$1.36. Yonkers-on-Hudson, New York: World Book Co., 1927.

² Mary A. Sheehan, *Extra-curricular Activities in a Junior High School*. Boston: Richard G. Badger, Publisher, 1927. Pp. 182.

ticularly has the junior high school—unhampered by tradition, rather a maker of tradition—proved a fruitful field for their development” (pp. 13-14). That the Washington Junior High School has a diversified extra-curriculum program is indicated by the titles of the chapters: “Extra-curricular Activities in the School Program,” “Student Participation in School Control,” “Social Activities in the Regular Assigned Periods,” “The Assembly,” “The Class Meeting,” “The Club Period,” “School Campaigns,” “Student Publications,” “Standards of Honor,” and “Extra-curricular Activities—Ideals in Action.”

The outstanding principle which is developed in the book is briefly stated as follows in the chapter entitled “The Club Period”: “Steam under pressure seeks and finds an outlet; human energy acts in much the same way” (p. 97). The impelling energy of boys and girls and their keen interest in the activities of real life are sympathetically understood by the author of this book, and these dominant characteristics are fully considered in the program described throughout the discussion.

The book has adequately considered all phases of extra-curriculum activities except athletics. The introductory chapter suggests the limitations of conventional education in the past and defines modern education in terms of extra-curriculum activities. The sixth chapter, which deals with the club period, is one of the most complete and helpful parts of the book. A high correlation is shown between complete and successful home life and meaningful club work, and the desirable educational policy in the light of this correlation is pointed out. Teachers will find new ideas in the list of clubs at the end of this chapter and in the definite objectives for each club.

Although the book does not include a large amount of scientific educational material, it will be useful as a supplementary textbook for college courses in education dealing with the organization and administration of the junior high school. The book can also be used, and perhaps to better advantage, by junior high school teachers and administrators as a guide and reference book.

ROBERT B. WEAVER

Readings in science.—There has been no more encouraging sign in the teaching of English during recent years than the tendency to include among the literary offerings for pupils in secondary schools selections that are realistic in character as well as those that are imaginative. Among the books of the first-named type, a recent publication¹ composed entirely of readings dealing with achievements in the field of modern science will appeal particularly to boys and will prove stimulating to girls.

The book is notable more for the content of the selections which it provides than for the literary or scientific reputations of the authors represented, although the authors include Thomas A. Edison, Jean Henri Fabre, Archibald Geikie, John Muir, Nathaniel S. Shaler, Henry D. Thoreau, and John Bur-

¹ *Wonders of Science*. Selected and arranged by Eva March Tappan. Boston: Houghton Mifflin Co., 1927 (school edition). Pp. xiv+258. \$0.96.

roughs. In the judgment of many educators, this is just as it should be, for in secondary schools at least the choice of readings for classes in literature should be determined more by the intrinsic value and interest of the selections than by their authors. Regardless of authorship, boys and girls will be stimulated and informed by such selections as "The Greatest Camera in the World," "The Story of Radio," "Uncle Sam's Kites Report on the Weather," "The Magnet as a Useful Wizard," "The Birth of an Iceberg," "How Soil Is Made," "If We Lived on the Moon," "A Walk on the Bottom of the Sea," "How Plants Move," "Plants That Eat Animals," "The Harvesting Ants," and "The Fastest Living Thing." Selections of this type are not only interesting but, as the editor points out, of value in helping the reader "understand better the world in which he lives and its everyday occurrences" (p. ix).

This book will prove serviceable as supplementary reading material in courses in science as well as in courses in English. Most of the selections are suitable for pupils in the junior high school and for pupils in the senior high school. Similar books are needed in mathematics, civics, history, music, art, and economics.

HOWARD C. HILL

An aid to drill work in chemical calculations.—Teachers of high-school chemistry ordinarily encounter considerable difficulty in teaching pupils to carry out the mathematical computations involved in problems. If the scientific principles have been properly presented by the instructor and thoroughly assimilated by the pupils, the next logical procedure is drill in the use of the material. A book¹ by Ernest L. Dinsmore provides a wealth of well-selected and properly graded drill material in the form of exercises and problems within the intellectual grasp of high-school pupils in courses in elementary chemistry.

The book is more than a carefully selected and well-arranged collection of problems. It is a miniature textbook. Each chapter opens with a terse discussion of the principles involved in the particular list of exercises grouped into that unit of the book. The text material is brief and to the point but sufficiently complete for the purpose. Following the discussion are several type problems illustrating the processes involved in the solution.

The material is presented in fourteen chapters covering the field ordinarily included in a high-school textbook in elementary chemistry. The first chapter deals with the nature of matter and its changes and includes a timely explanation of the theory of the electronic structure of the atom. This discussion is a valuable addition to the course in elementary chemistry and is not included in many of the textbooks in use at the present time. Problems involving changes in gas volumes appear in the next chapter, followed by nine chapters with discussions and exercises on the laws of definite and multiple proportion, percentage composition, chemical equations involving weights and volumes, and com-

¹ Ernest L. Dinsmore, *Chemical Calculations*. New York: Globe Book Co., 1927. Pp. vi+182.

binations of both weight and volume. Chapter xii groups a number of problems according to the more or less standard arrangement of the high-school chemistry textbook. The last two chapters contain fifty-four problems selected from recent lists of questions used in state and college-entrance examinations. This list will prove to be of benefit to pupils preparing for college-entrance examinations in chemistry.

In most cases the problems are practical and not too involved for the level of ability of the pupil in the high-school chemistry course. In many cases actual situations in the field of industrial chemistry are presented to motivate the study of chemistry. More practical problems with fewer exercises requiring stereotyped definitions would have enhanced the practical value of the book.

The book will prove a valuable addition to the reference library of any high-school chemistry teacher as it furnishes an excellent source of material for assignments where individual help is required and also supplies dependable material to be used as the basis for the selection of examination questions and test problems. The use of the book is not limited to teachers. It may safely be placed in the hands of the pupils and will prove a worthy supplement to the regular textbook, since most textbooks in elementary chemistry lack sufficient problem material for the drill which pupils require in order to master the procedure in chemical calculations.

FRED G. ANIBAL

European history from the seventeenth century to the present.—A revised and enlarged book¹ designed for the second part of a two-year course in European civilization, in which the narrative has been brought down to the present time, has recently made its appearance. The 1919 edition, the predecessor of the recent one, represented pretty largely a condensed review of the authors' more extensive work, *The Development of Modern Europe*. The first 677 pages of the new book, which trace the course of development down to the opening of the World War, follow exactly the earlier edition. It is only in the last 142 pages that actual revision has been made or new material added. This review will therefore deal only with the last 142 pages of the book. Here one can observe a radical departure from the earlier form. Where before there were but two chapters given to a discussion of the World War, there are now three: "Origin of the World War," "First Stages of the World War," and "Final Stages of the War; the Russian Revolution." On the period since the close of the war there are three chapters: "The Peace of Versailles and the League of Nations," "Europe's Search for Peace and Prosperity," and "Readjusting International Relations."

The authors have given here a condensed account of the leading developments in European history since 1914 which is both readable and serviceable. The incidents leading up to the World War, the major movements of the con-

¹ James Harvey Robinson and Charles A. Beard, *Outlines of European History*, Part II. Boston: Ginn & Co., 1927 (enlarged and revised). Pp. xiv+820+liv. \$2.12.

flict, and the problems both of war-time Europe and of the consequent peace settlement are critically analyzed and clearly portrayed. There has been no attempt, however, to attribute responsibility for the war. The case for both sides is set forth clearly as it appears in the light of the secret treaties and papers which have been released in the years since the close of the war. The statement that there are probably very few neutral historians who "would now place on Germany or her allies the *sole* responsibility for starting the war" (p. 805) seems to be a convenient way to pass over the matter. The chapter on "Europe's Search for Peace and Prosperity" has impressed the reviewer as of special merit. The discussion of the difficulties which European nations faced after the war and of the manner in which order was gradually brought out of chaos, entailing political, social, and economic changes of the greatest consequence, is clear and analytical. In the section on international relations following the war there is considerable evidence of the recent tendency to sound an appeal for international mindedness; for example, the reader is reminded that "it would be a great mistake for American citizens to turn their backs on Europe, Asia, and South America and refuse to take any interest in world-affairs" (p. 816).

At the end of each chapter is a list of questions for review. A critical bibliography for each chapter, which suggests additional reading from the general works and sources, is appended to the book. These bibliographies should prove particularly helpful to the pupil in the secondary school. The illustrations are not profuse, but they show signs of having been selected with considerable care. For the most part, they are valuable and tend to complete a narrative which has been somewhat condensed.

JAMES H. PEELING

Selections from German life and literature.—A book¹ by Professor Hagboldt meets in every respect the requirement of modern linguistic pedagogy that the reading material should be valuable and should gratify the reader's heart and fancy as well as his mind. The selections are written in a style that is simple but not juvenile. At the same time each chapter is so prepared that it has value as an artistic whole. There is not a dull page in the book.

There are seven chapters. The first chapter gives a selection of legends and sagas which have found a permanent place in German literary history. Chapter ii presents four well-written historical sketches about the Germanic tribes at the time of Tacitus, Charlemagne according to Einhard, the period of the Thirty Years' War, and Frederick the Great. Chapter iii, *Allerlei über Deutschland*, deals with typical German thought and life: "Wandervögel," "Heidelberg," "A Letter from a Father to His Son" by Matthias Claudius, and other interesting selections. Chapter iv, "Great Men and Their Works," is a splendid introduction to German literature, art, philosophy, music, science, and invention. The discussion of good books in chapter v carries out the author's plan

¹ Peter Hagboldt, *Inductive Readings in German*, Book II. Chicago: University of Chicago Press, 1927. Pp. xvi+172.

of stimulating the student to do further reading. The selected poems in chapter vi constitute an excellent introduction to the best German lyrics and ballads. In the material of familiar content, chapter vii, the student may observe the art of translation and practice reading by inference.

The purpose of the bibliographies at the end of the chapters is to encourage the student to do extensive and intensive reading. A suggestive "Graded Reading List" of elementary, intermediate, advanced, and scientific German is added for the convenience of teacher and student.

The second part of the book furnishes abundant exercises. The *Fragen*, *Wortschatzübungen*, brief exercises in grammar, and *Aufsatzthemen* given in twenty-nine exercises employ in a masterly way the functions of analysis and synthesis. Questions form the basis of conversation, and they are formulated in such a way that they not merely reproduce the text but also force the student to recast and reproduce the text freely. The *Wortschatzübungen* enlarge the student's vocabulary through thirty-three different devices, prominent among which are prefixes, suffixes, compounds, synonyms, antonyms, paraphrases, and word groups. These devices are more numerous than those found in any other book.

The author emphasizes the fact that he has broken with the traditional method of vocabulary presentation. English is used in combination with German synonyms and paraphrases to give the meaning of the new word. The vocabulary has been prepared with the utmost care. Footnotes in the text enable the student to derive the meaning of a word by inference so that he can read without continually resorting to the vocabulary. To the reviewer this seems an invaluable device for encouraging re-reading of the selections until each word and each sentence have become thoroughly assimilated, that is, until the student's comprehension has become direct.

The exercises in grammar constitute a complete review of the elements of German grammar. A good map of Germany, nine excellent illustrations from the works of famous artists (Richter, Schwind, Amman), and an index of exercises in word formation and exercises in grammar enhance the value of the book.

The author combines practical experience with a mastery of the German language and a thorough knowledge of the psychology of the student. In the opinion of the reviewer, he has made an original and important contribution to the material available for the study of German. As the book will make the difficult task of teaching or learning German both more pleasant and more scientific, it should find a wide use.

WALTER SCHWENN

EUREKA COLLEGE

The progress of teacher-training in Missouri.—School people are gradually coming to appreciate the need of surveying carefully the administration of teacher-training within various states. The fact that such surveys of teacher-

training as have been completed indicate the existence of several major problems which are rendering difficult the work of effecting adequate teacher-training programs for each state is probably responsible for the growing demand for all the facts about teacher-training. Information looking toward scientific solutions of the problems of teacher-training and appraisals of the progress being made in the light of such information are slowly accumulating. A recent publication¹ adds to the body of accumulating literature in that it shows in detail the progress of teacher-training in Missouri during the past ten years and in that it incidentally throws light on some of the problems of teacher-training.

The specific purpose of the book is to determine the administrative modifications that have taken place in the state teachers' colleges of Missouri during the decade following the Carnegie survey of tax-supported normal schools. Its further purpose is to compare these modifications with the findings and the recommendations of the Carnegie survey. Investigations and comparisons with respect to student personnel, teacher personnel, curriculums, and relations among the higher institutions of the state are all carefully executed. Proposals looking toward a continued development of the state teachers' colleges constitute an integral part of the book.

The book treats of several of the general problems of teacher-training and to that extent is of interest to those concerned in securing a capable teacher for every schoolroom. Not all the major problems involved in teacher-training are dealt with. For example, a study of the sources of supply in relation to the needs of the teaching service is necessary before the state can efficiently exercise her educational function. The problems investigated are problems common to teacher-training in all states; hence the methods used to attack these problems will be suggestive to anyone who seeks to study teacher-training. The chief value of the book lies in the fact that it emphasizes the need of evaluating the progress being made in the matter of providing trained teachers for the state.

ALBERT GRANT

How instructors in teachers' colleges spend their time.—The most recent study of the service load of teachers is that made by L. B. McMullen.² This study, which was undertaken under the auspices of the American Association of Teachers Colleges, is of particular value because of the code method used in collecting data and because of the vast amount of data collected.

Nineteen hundred and fifty-six teachers in sixty-nine teacher-training institutions in twenty-eight states contributed to the study. As a result, there are

¹ Clyde Milton Hill, *A Decade of Progress in Teacher Training*. Teachers College Contributions to Education, No. 233. New York: Teachers College, Columbia University, 1927. Pp. 220. \$1.50.

² Lynn Banks McMullen, *The Service Load in Teacher Training Institutions of the United States*. Teachers College Contributions to Education, No. 244. New York: Teachers College, Columbia University, 1927. Pp. viii+98. \$1.50.

enough teachers in the thirteen departments of teaching studied to permit satisfactory comparisons between departments and to answer several vital questions of long standing. In the past an attempt has been made to standardize the weekly service load of teachers in the teacher-training institutions in the United States in order to guarantee to students fairly uniform training under teachers who are not overworked. In the attempt at standardization the administrators encountered many problems. Some of the problems on which McMullen's study throws light are the following: (1) Is it wise to fix the service load in terms only of the number of hours spent in actual classroom teaching? (2) Is there any difference in the amount of energy expended in different types of teaching? If so, is it possible to work out a system of weighting so as to equalize the amounts? (3) Is there a total time load generally agreed upon? (4) How does the average teacher distribute his time? (5) Is teaching a full-time job, or do instructors in teachers' colleges do other work for pay? (6) Does the service load bear any relation to professional preparation? (7) Is there any relation between daily preparation and number of years of experience?

The enormous amount of data secured by the methods used obviously precluded the possibility of including more than summaries in a study of reasonable length. The results are presented under two headings: (1) direct school work for which remuneration is received from the employing institution—the service load—and (2) incidental activities for which remuneration is not received from the institution but which grow out of the work of teaching and contribute to its efficiency, to the growth of the teacher, and to the advance of education in general.

In the first classification are (a) class work, (b) daily preparation for class work, (c) routine work incident to class work or to faculty organization, and (d) work with students outside of class.

The second classification includes (a) exercise or recreation needed for physical or mental efficiency; (b) work outside of class hours, including work for pay, which in some cases bears a return to the school in increased efficiency or advertising; and (c) work of a miscellaneous nature for the betterment of the individual teacher, of the social community, or of the professional group to which the teacher belongs.

At the end of the book are an excellent summary, some valuable recommendations, and a bibliography.

G. CLYDE EIDSON

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